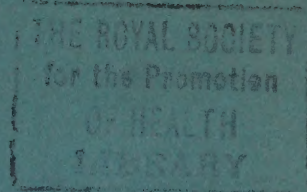


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GREAT BRITAIN

GENERAL REPORT

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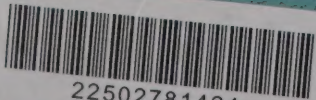
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CENSUS 1961, GENERAL REPORT

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CENSUS 1961, GENERAL REPORT

PART I - ADMINISTRATIVE REPORT

CHAPTER 1

General

Introduction

The Sixteenth Census of the population of England and Wales and of Scotland was taken as at midnight on Sunday, 23rd April 1961. Censuses were taken on the same date by the appropriate authorities in Northern Ireland, the Isle of Man and the Channel Islands. A census was held in the Irish Republic on 9th April 1961.

The previous (Fifteenth) Census for England and Wales and for Scotland was taken in April, 1951. There have been censuses every ten years since the series began in 1801, broken only in 1941 when the war prevented a census being held.

The present report deals with the organisation of the census mainly for England and Wales. It covers the subsequent work of analysis and contains a general statistical appraisal of the results. The report concludes with an account of the main differences between Scotland and England and Wales as regards methods and procedures. The detailed analyses of the data have been published in a series of separate census reports listed on pages 40-42

The history of census taking in England and Wales from 1801 to 1931 is summarised in a special publication of the Interdepartmental Committee on Social and Economic Research "Guides to Official Sources No. 2, Census Reports of Great Britain 1801 - 1931" (H.M. Stationery Office, 1951). The General Report of each census has given a full description of the particular enumeration parallel to the present Report, with particular reference to new developments. In addition, the General Reports of the censuses of 1901 and 1911 contain full reviews of the censuses taken up to those dates and of the legislation under which they were held.

It will be seen from the following description that the 1961 Census followed the same general plan as earlier enumerations. There were however three major innovations as well as many detailed changes. For the first time, a number of the census questions were addressed to only a sample of the population; the main operations of processing the results to build up the figures required for the published tabulations were carried out by an electronic computer; the tables for publication were typed automatically from punched cards and then reproduced by photographic methods. These three innovations are discussed in a little more detail later in this chapter.

Authority for the Census

The Census Act, 1920, is a permanent Act making provision for censuses generally. Under this an Order in Council is needed to direct that a census be taken in Great Britain and to define the general scope of the enquiry, and regulations have to be made to enable the Order in Council to be put into effect.

Order in Council

In accordance with the statutory procedure, a draft Order in Council, prescribing the date of the census, the persons by whom and with respect to whom the returns were to be made, and the substance of the questions to be asked, including provision for the introduction of sample methods, was laid before both Houses of Parliament on 8th April, 1960. The Census Act provides for certain subjects of enquiry, but the inclusion of subjects not specifically covered in precise terms has to be confirmed by an affirmative resolution in both Houses. The draft Order was explained fully in the House of Commons on 4th May 1960 (Hansard columns 1181-1198) and accepted without opposition; at the same time the House approved the inclusion of questions about the first or only marriage where this had terminated, about housing tenure, education, scientific and technological qualifications, change of usual residence in past year or duration of stay at present usual residence, these questions being not already specifically authorised by the Act. There was a general debate about the draft Order in the House of Lords on 1st June 1960, (Hansard columns 196-225) following which the inclusion of these questions was also agreed to. The Census Order, 1960 (S.I. 1960 No. 1062) was made on 23rd June 1960.

Regulations

The detailed machinery for taking the census and the precise forms of return to be used in all cases were prescribed in the Census Regulations, 1960, (S.I. 1960 No. 1175). These were signed by the Minister of Health on 11th July 1960, and laid before Parliament on 18th July. There was no discussion of them in either House.

Planning

Planning began in December 1957 when the first approaches were made to Government Departments to determine the topics to be included in the census. The general planning included drafting the Census Order and Regulations, preparing and printing the schedules, enumeration books and other census forms, and recruiting and instructing local officers.

A small section, in consultation with other departments, concentrated on the revision of the Classification of Occupations.

Other officers considered the machines to be used for processing the results and planned the method of processing from coding, through punched cards, magnetic tape and computer to the form of the tables of results to be published.

Whilst this work was going on a section was set up to plan the division of the country into enumeration districts. Some 50 clerical staff were engaged on this work and completed the job in January 1961.

Questions

The 1951 Census had contained the largest programme of enquiries so far included in a census in England and Wales, though little that was wholly new. The full list of questions for 1961 was somewhat larger than that for 1951, but owing to the introduction of sampling at the enumeration stage, nine out of ten people were asked for far less information than at any previous census this century. The programme of questions was worked out without regard to sampling considerations (which are dealt with later) and all questions were included on their intrinsic merits: there was no extension of the list because of the adoption of sampling in the field.

Questions as to *sex, age, marital condition and relation to head of household* are basic questions and were included much as before.

The question on *usual residence* was first included in 1931 and repeated in 1951 and 1961, but the instructions in 1961 differed in that they required the home address for school children and students who lived away from home during term-time. This question enables allowance to be made for persons enumerated elsewhere in England and Wales when computing the populations of local authority areas, and for these to be reduced in respect of visitors from other parts of the country. It enables tabulations to be made about visitors from countries other than England and Wales. It also provides for tabulations on the ten per cent information to be related more appropriately to the usual residence.

The questions about *birthplace and nationality*, which date back to 1841, were again included. The former was limited to country of birth as the 1951 Census provided extensive tabulations by county of birth and it was considered unnecessary to obtain the same detail on this occasion. In Scotland, however, where the subject is of greater importance, the more detailed question was retained. The nationality question, limited to those born outside the United Kingdom, was unchanged as regards foreign nationalities, but the question now provided for specific mention of various commonwealth countries. Mode of acquisition of citizenship of the United Kingdom and Colonies, i.e. whether by birth or descent, naturalisation, registration or marriage, was obtained as it had been for all those who stated British nationality in 1951.

The questions about *occupation, industry and economic status*, which have been elaborated over many censuses since the first in 1801, were set out in 1961 in a manner which focused attention first on the person's state of employment in the week before census day, i.e. whether employed or self-employed, or if not employed, whether looking for work, sick or retired, or outside the range of employment, as with students, persons engaged on home duties or of independent means. With the main category clear, more detailed questions on present or former occupation, employer and present place of work were asked. Some new questions were added to bring further precision to the enquiry and perhaps to aid the public in finding the appropriate answers. Thus those unable to work through sickness were to be distinguished from those without a job but seeking work. Persons working part-time (both men and women) were asked to state the number of hours worked, and men working part-time were asked to state their previous full-time occupation.

The question about the *age at which full-time education ceased*, first asked in 1951, was repeated, and extended to the population generally instead of being limited to those in employment.

A new question was included at the request of the Minister for Science on the advice of the Advisory Council on Scientific Policy which was primarily designed to establish the location of the country's scientific manpower. The question asked for the *professional qualifications* held and the main branch of science or technology in which the qualifications were held.

There has been a growing demand from universities, local authorities and Government Departments for an enquiry to throw further light on *internal migration* within the country. A new question was included in the 1961 Census to obtain information about the amount, direction and characteristics of population movements within the country and the number of years a person had lived at his usual residence.

Questions about *marriage and children* were again included, as they had been at the 1911 and 1951 Censuses. The former had asked for marriage details for all married women, the latter for all married women under the age of 50. The 1961 Census questions related to all women who were or had been married, and so the extent of the groups questioned was the same as in the 1946 Family Census conducted on behalf of the Royal Commission on Population. The questions about children were the same as in 1951. It was suggested that the enquiry should extend to the date of birth of each child to give information about birth intervals, as had been done by the Royal Commission, but it was not regarded as practicable within the limits of the census to seek as much detail as the specialised enquiry. The innovation at the 1961 Census, though again this followed the Family Census, was the date of termination of the first or only marriage for women. This enabled statistical use to be made of the family building experience of women whose first or only marriage was terminated by widowhood or divorce after the end of their childbearing life. This is important for estimating the trends in family building over as many generations as possible; there are many widows in the higher age groups, but for considering trends in family building those who did not become widowed until after the end of their childbearing life can be included in the analysis as though they were still married. The 1961 Census thus establishes a full picture of completed as well as current fertility.

In Wales and Monmouthshire the question on the *ability to speak Welsh* was included as it had been at every census since 1891. The question was asked in the same terms as in 1931 and 1951. A similar question on ability to speak Gaelic was included in the census in Scotland.

A question on *place of work* was first included in 1921. It was repeated in 1951 and was again included in 1961 because the study of the relationship between place of residence and place of work has a valuable part to play in local planning. It is appropriate also to tabulate industry figures on a work-place basis.

Questions on *housing and households* have been included in every census since the first in 1801. The information was derived mainly from the record made by the enumerators in the course of the enumeration. In 1961 enumerators were also asked to note whether a building was wholly or partly residential, and whether it contained one or more dwellings.

In 1951 questions on certain *household arrangements* had been included to throw light on housing conditions. These were largely repeated in 1961, with the questions about piped water supply, water closet and fixed bath, but a new question about piped hot water supply was added. The 1951 questions about cooking stove or range and kitchen sink were restricted in 1961 to households sharing structurally separate dwellings in the census sense. As the enumerator had first to apply the definition for a structurally separate dwelling, it was left to him to pursue this enquiry. The information so obtained enabled sharing households under the census definition to be classified according to how far the living accommodation they occupied provided for separate occupation or not.

A question about *housing tenure* was included for the first time in 1961. Householders were required to say whether the accommodation occupied by their household was held by them as owner-occupiers; occupied by them in connection with employment or as part of business premises; rented from a Council (i.e. a local authority) or a New Town Corporation, or a private landlord and in the latter case whether furnished or unfurnished; or occupied on some other terms. In Scotland the Scottish Special Housing Association, the Scottish National Housing Company Limited and the Second Scottish National Housing Company (Housing Trust) Limited were also specifically mentioned.

The *analysis of private households* by size and various characteristics of their members has become increasingly important as a pointer to various social or housing requirements in recent years. In 1951 visitors were excluded from these tabulations, and the improvement to the statistics of bringing in members of households from elsewhere in England and Wales was not thought to be so great as to justify the labour of transferring the particulars in a matching operation to link them with the households to which they belong (even if this had been practicable). In 1961, with the introduction of sampling, the analysis of the composition of private households was on a usual residence rather than an enumerated basis. Accordingly a new question was introduced in 1961, asking for particulars of persons usually living in a household who were absent on census night, to enable them to be included in the various household analyses. The information collected under this head does not affect the main count of population numbers, which is arrived at in the same way as previously, but is being used solely in the analysis of household composition.

The wording of the questions, and the notes for guidance, can be seen on the specimen schedules at pages 208-210. Their effectiveness is discussed in a later chapter which deals with the quality of the 1961 Census data.

Publications

At the time of planning the publications there was every prospect that a scale of publications would be agreed, which would enable all results to be published within 2-3 years of the census. If this were so it was felt that there was no need to produce 1 per cent sample tables such as were produced after the 1951 Census. Apart from this the general pattern of the 1951 publications was followed i.e. reports for each county in turn followed by national volumes dealing with each of the subjects on which enquiry was made at the census. The reasons why it took over 5 years to publish the results instead of the hoped for 2-3 years are discussed on page 12.

As with the census questions there was wide consultation to determine the statistics which were to appear in the tables and the format of each of those tables. Following this consultation detailed specifications were prepared showing the content of each of the statistical cells and following those specifications tables were designed which would present the statistics.

Schedules

The design and presentation of forms for use by the general public require careful consideration if there is to be a reasonable chance of obtaining the results desired. Before the final forms of the 1961 Census schedules had been produced, there had been consultation with the Organisation and Methods Division of the Treasury and several experiments made with different designs to arrive at the forms which it was hoped would give the best results.

The overriding problem was to present all the questions clearly and yet get them on to a sheet of paper that would not frighten the householder by its size. The problem of the size of the full schedule brought about the first departure from previous practice with the introduction of separate leaflets for the sample and non-private household schedules to contain notes of guidance and examples for the person completing the schedule. Size, too, controlled the design of the household schedules which were to be used for sampling. The objective was to produce two forms of household schedule, one containing in addition the questions on a sample basis, so that when folded the linear measurements of the forms would be the same. This was an attempt to make it more difficult for the enumerator to select from his supply a particular type of schedule for a specific household.

The experiment, introduced in 1951, of sub-dividing the spaces provided for the answers to questions, was carried further in the 1961 Census schedules. This saved overall space on the forms but tended to obscure parts of some questions from the person completing the schedule. Thus, for example, there was some failure to respond to all the sub-divisions of the questions relating to married women.

In all, seven different types of schedule were prescribed in the Regulations with four differing leaflets of notes and examples. The types of schedule were:-

Private household schedules

- for use in England - E.90 and E.10 (for sample households)
- for use in Wales and Monmouthshire - W.90 and W.10 (for sample households).

Institution schedules "I"

for use in hospitals, hotels, boarding schools, etc.

Shipping schedules "S"

for use by masters of vessels in ports and harbours.

Forces schedules "NMA"

for use in military camps and shore establishments.

In addition, translations into Welsh were provided of the schedules W.90 and W.10. Because of the numbers of immigrants from the Commonwealth and foreign nationals in the country, translations of the E.10 schedule and notes were also provided in Italian, Polish and Greek and of the schedule only in Urdu, Hindi and Bengali.

A further factor influencing design of the household schedules was a desire to provide for the eventual removal from completed schedules of as much as possible of the printed questions. These would have no relevance to the processing arrangements which were to follow but their removal would make a considerable reduction in the weight of paper to be handled and the space necessary for storage. This objective was achieved by printing most of the questions in the top three inches of the household schedules and providing perforations below those questions but above the spaces provided for the answers.

The final dimensions of the schedules were not determined until about the middle of 1960. By that time problems of production were requiring urgent settlement. Orders for the printing of the 20 millions of schedules required could not be undertaken lightly. A further factor not fully appreciated at the time was that the paper of the quality needed for the schedules was not readily available and had to be made. In all some 300 tons of paper were used by H.M. Stationery Office to produce the schedules.

Introduction of sampling methods

In 1951 a one per cent sample of all census records was extracted and used to provide preliminary figures on all subjects. In planning the 1961 Census it was decided that in view of the expected faster production of the main census tables the case for a preliminary one per cent sample was small so it was not repeated.

Consideration was then given to the production of census tables on certain topics on a sample basis only, without repetition on a full count basis. The advantages of such sample production are mainly in terms of economy. With sample tabulation the coding and processing burden is reduced with economy of cost and quicker production of results. The main drawback of sample-based figures is their lack of precision, since the true figure can only be estimated within certain limits. A subsidiary difficulty is that an extra element of complication is introduced into the organisation of the census. Topics which involve mainly national rather than local statistics or where the classification is into relatively few groups are therefore candidates for sample tabulation.

Application of these considerations to the census led to the conclusion that the population count, housing statistics, information on sex, age and marital condition and birthplace and nationality, which were needed for every administrative area, would have to be tabulated on a full count basis. On the other hand information on economic activity (occupation, industry, workplace, etc.), education, and household composition was mainly required on a national basis and while migration was of local interest the main classifications were short; these then were suitable for sample treatment. (Fertility was a marginal case; practical considerations eventually led to its allocation to a full count basis). Interested users among Government Departments, such as the Ministry of Housing and Local Government, the Ministry of Labour, the Board of Trade and the Central Statistical Office, were consulted before final decisions were reached.

Another point to be settled was the size of sample needed. The smaller the sample the greater the saving but the less the precision. Given any sample, the administrative cost of sampling was not closely related to the size of sample. A one per cent sample had been used in 1951 but then the sample information was temporary, to be replaced by a full count, whereas in 1961 the sample figures would form the whole of the available census material. Consideration of the proposed tabulations led to the conclusion that a sample of ten per cent would provide data of sufficient precision for the main tables and a sample of this size has the practical advantage that the results can be used as they stand

because grossing up consists merely of adding a nought. It should be noted that in general the proposed tabulations were not tailored to fit the sample but rather the size of sample chosen to fit the tabulation requirements.

The basic unit of census enumeration is the household and there were clear practical advantages in using the same unit as the basis for the sample. Experience with the household sample used in 1951 indicated that this had no significantly adverse effect on the precision of the statistics compared with those derived from a sample of persons. For private households the household was again the sampling unit. An exception had to be made, again as in 1951, for large non-private households, institutions, etc. Such places are sited too irregularly and are too variable in size for a sample based on the household or institution to be sufficiently precise - particularly for local figures. The population enumerated in such places were therefore sampled with the person as the sampling unit.

The final question was the stage at which the sampling was to be operated. The main choice was between a full enumeration followed by sampling within the office and a sample at the enumeration stage obtained by asking only a sample of households to answer the sample questions. The former had certain advantages in giving better control over the sampling operations and simplifying the organisation but it was then felt that these were outweighed by the consideration that it was unreasonable to ask nine tenths of the population for information that would not be used. The opportunity was therefore taken to lessen the burden on the public by limiting the sample questions to those whose information would be used. The device of spreading the sample questions among the households by including one or two of the sample questions on each form was considered but was rejected because this would have made impossible the cross-classifications of information which are one of the most valuable features of the census tabulations.

The introduction of sampling at the enumeration was a new departure which did not operate altogether successfully. The section in Chapter IV on "Validation of the sample" indicates the extent to which the sample was biased.

Introduction of computer

Consideration of a machine to be used for processing the census data began in 1957 when machine manufacturers thought to be interested were invited to put forward proposals. Seven manufacturers recommended the use of computer systems manufactured by themselves; one of them suggested the use of more conventional punched card machinery as an alternative, but their first recommendation was for the computer. It seemed clear from early examination of these proposals that the use of a computer represented the most satisfactory way of carrying out the processing, and attention was turned to choosing the most economical system for the purpose.

It seemed likely that the needs of the census could be met by a relatively small system, not provided with magnetic tape. This would have been considerably cheaper than a system using tape and a full investigation of the possibility was begun. New circumstances, however, arose and the enquiry was never completed.

During 1958 it was decided that an I.B.M. 705 system should be obtained for the use of the Royal Army Pay Corps. The machine was to have magnetic core storage of 40,000 characters backed by a magnetic drum of 60,000 characters and there were to be 10 magnetic tape units available for connection to it at any one time. At that time it was thought that there would be considerable spare capacity on this installation and the General Register Office was asked to consider whether that machine could be used to perform the census processing. As it was a considerably more powerful machine than those which were currently being considered for the purpose, it then seemed clear that it could do so with much less than full time usage. It was therefore agreed that time on this machine should be made available, and the project to acquire a separate computer for the census work was abandoned. It was necessary to supplement the equipment required for the Pay Corps by obtaining a punch to provide output in punched card form and an additional card reader to permit the feeding in of the large number of cards which had to be punched for the census. The 705 was installed late in 1960 at Worthy Down, near Winchester in Hampshire.

It was also decided that the processing of the Scottish Census data should be carried out on the same machine. The General Register Office would control the machine running, acting as agents for the General Registry Office (Scotland). The latter Department were to arrange for the programmes written for the England and Wales processing to be modified as necessary to enable them to be used for Scottish Gaelic work, and to prepare programmes for the small

number of tables required for Scotland only as a result of the extra detail obtained about birthplace.

The use of a computer made it practicable for the first time to have a machine output consisting of the precise figures required for publication, arranged in the way they were wanted. This made it worth while to consider producing reports directly by photographic means from machine output, avoiding the laborious setting up and proof-reading stages at which errors inevitably arise. It would have been possible to use the directly printed output of the computer, but it was felt that the quality of this was not up to the standard which was desirable, and it would not have been possible to introduce varying type founts which are considered helpful in conveying emphasis or distinction to the reader. It was therefore decided that the computer output should be by punched cards and that these should be fed to a cardatype machine. This consists of up to four typewriters which, in unison or separately, can be arranged to type the contents of punched cards. The census installation used three typewriters, of which one was fitted with normal roman type, a second with bold face type and the third with italic type. By arranging for them all to type the whole table in their respective founts, and then piecing together parts of their output it was possible to obtain the desired presentation.

As soon as sufficient information was available on the content of the census schedule, work was started on writing the programmes for the computer. The first programmes were completed in early 1960 and testing of them was carried out on an installation in Paris to which several visits were made before the Worthy Down machine was installed.

Assistance to 1961 Census of Distribution

The Report of the Committee on the Censuses of Production and Distribution (Cmd.9276) had suggested in 1954 that the Registrar General should be approached with a view to obtaining a register of distributive establishments at the Census of Population (paragraph 147). This suggestion was examined with the Board of Trade and arrangements were made for enumerators to co-operate in compiling the register. As they had in any case to inspect all premises within their enumeration district to see whether they contained residential accommodation, it was a simple matter for them to record the location, nature of business and name of proprietor, company, etc. for all premises engaged in the retail and building trades. This information was collected by outward inspection of the premises, and was in no way connected with the information obtained on the population census schedules. The operation, which is described more fully below, was of great assistance to the Board of Trade as well as producing a substantial saving over the cost of alternative methods. It passed off smoothly without comment of any kind, and added a little to the fees earned by the census officers and enumerators.

Basis of enumeration

The enumeration has been based on the household since 1841, and with the continued good response from heads of households who must complete the schedule, this method still appears best. It is the duty of the enumerator to deliver a schedule to the head, or person acting as head, of every private household. All schedules were to be completed as at midnight on census day, and then collected by the enumerators on the Monday following, or as soon after as possible. Under this system distribution of schedules and the identification and recording of dwellings and households can be spread over a week or so beforehand. The enumerator has comparatively little to record and so the time he requires to complete the task is less than an interviewer, who has himself to ask all the questions orally, would take. The head of the household can complete the schedule at his convenience and has time to read the form and instructions and to take care over the answers. He may well not be at home when the schedule is delivered or collected but the census is not at the mercy of whatever respondent happens to be at home when the enumerator calls.

The private household may be defined broadly as one or more persons occupying a house or a separate part of a house, flat, apartment, etc. Persons who usually had at least one meal a day provided by the household while in residence were regarded as part of the household. Thus a boarder or a visitor was counted as part of the household, but a lodger who did not eat with the household was regarded as constituting a separate household for census purposes.

Hotel managers, boarding house proprietors, the chief resident officers or other persons for the time being in charge of a hospital, nursing home, sanatorium, hostel or educational establishment, governors of prisons or masters of ships or other vessels were responsible for the enumeration of the persons in their care. The responsibility for enumerating persons in defence establishments, including naval ships (whether serving personnel, civilian employees or

dependants), fell to the officer commanding each separate unit. Families living in married quarters were enumerated as private households on the normal schedules by the census enumerators under arrangements made with the commanding officers. This practice differed from that adopted for the 1951 Census.

Secrecy

The information is collected for statistical purposes only, under a pledge of the strictest secrecy. Every precaution is taken to ensure that everyone concerned in taking the census is made fully aware of this pledge, and signs an undertaking to observe it. There are penalties of a fine and up to two years imprisonment for any breach. This understanding is widely accepted, and has contributed greatly to the trust which the public places in the census.

Separate Returns

While this is sufficient to satisfy the householder in a private household, and usually his immediate family, it could none the less create embarrassment to some individuals to entrust the details of their lives to the heads of boarding houses, hotels and the like. Accordingly provision was made for a person to ask for a separate confidential return, which would go direct to the enumerator and not be seen by the head of the household or establishment; the actual recourse to separate confidential returns was very small, only about 3,500 being required out of 46 million people.

It was hoped to minimise any feelings of embarrassment at direct personal dealings with the enumerator by the choice of enumerators with the ability to inspire trust, and wherever possible their assignment to areas in which they were not likely to be widely known. To a very large extent this was achieved, but in an operation like the census which affects everyone in the country there are bound to be exceptions to every rule. Even the exceptions could be avoided (and some of them were), by use of the post but it was then felt that any general recourse to returning schedules by post might delay the enumeration process, make it more difficult to ensure complete enumeration because checking would be much slower, and make the improvement of inaccurately or incompletely answered schedules a much more time-consuming process.

Publicity

The quality of the census depends not merely upon the powers of compulsion under the Census Act, Order and Regulations, and the administrative machinery set up to carry out the enumeration, but perhaps even more upon a ready co-operation from the public. The census plans therefore included provision for publicity, designed to convince every citizen that the census is essential. The census was presented as a national count which every nation needs for good government, and which brings benefit to all by providing the essential facts upon which national and local plans should be based. The publicity also stressed that no harm could be caused to any individual by answering the questions. The legal sanctions are only there in reserve against those few individuals who make a point of refusing co-operation.

The need for suitable publicity is clear, and attempts were made to gain it through all suitable means, in order that the census and the census particulars should be fully understood throughout the country.

Publicity was sought through the press, broadcasting media, journals and magazines, posters, and an informative booklet; an account of each is given below.

Press

As in 1951, reliance was placed on the news value of the census to gain publicity in the national and local newspapers; there was no paid advertising. The first main contact with the press came with the laying of the Census Order in Parliament. At the time that it was laid, a meeting was held with lobby correspondents to give them information about the scope of the census and to answer any questions that might arise. A similar meeting was held on 18th July, 1960 when the Census Regulations were laid before Parliament. Brief reports of those events appeared in the press and there followed occasional references to the census until January, 1961 when the first real impact on the public was made. That was the occasion for the recruitment of the 70,000 enumerators required.

The notice to the press about recruiting enumerators was timed for release on 9th January when circulars about recruitment were being issued to local officers and when various authorities were issuing instructions to their staffs. Unfortunately, news "leaked" to the press a few days earlier and as a result many applicants arrived at local offices before the offices were equipped to deal with them. The enumerators announcement about recruiting was well covered

in the national and, particularly, the local newspapers. It promoted general comment on the census and served to arouse public interest.

A further stimulus was given at a general press conference held in the General Register Office, Somerset House on 14th March. The occasion was the publication of the booklet on the census but opportunity was taken to emphasise particular aspects of the census and to answer reporters' questions.

In all, there were some 3,000 references to the census in the press and about one third of these were made during the period immediately before the census. But despite this, when enumerators began to deliver their schedules on 15th April, they found that the public had little idea that a census was being taken.

Broadcasting

The vast increase in the number of television receivers and the introduction of commercial television since 1951 made it essential to get some reference to the census on to the television screens. The first approaches to the British Broadcasting Corporation and the Independent Television Authority in October, 1960, brought encouraging replies and guidance on the ways that the census might be covered by television. Two courses were envisaged, the first to show very short films, termed "fillers", between programmes, and second to refer to the census in news bulletins and, particularly during census week, in popular programmes. The fillers were two cartoon films of a minute's and thirty seconds' duration. The films emphasised in a light-hearted style one or two of the more important aspects of the census and were shown frequently during the week of the census. With one exception, the attempt to introduce the census into regular programmes was not successful. The exception was the inclusion of an enumerator in a popular programme ("What's my Line") on Sunday evening, 16th April. The effect of her appearance on the previous evening was to ease the enumerators' job of distributing schedules on the Monday. No longer were there blank, apprehensive and enquiring householders, instead there was ready co-operation when the enumerator called.

The coverage in sound broadcasting was excellent. Items about the census were included in many programmes and a particularly helpful talk was given at mid-day on the 23rd April.

Booklet

In 1951, the booklet entitled "8th April 1951 - The Census Explained" was placed on sale by H.M. Stationery Office and some 40,000 copies were sold. This apparent interest in the census suggested that something similar should be produced for 1961. Accordingly, answers and explanations to general questions about the census were put together into the booklet "Why a Census?" which was sold by H.M.S.O. and priced one shilling. This booklet did not achieve the success of its predecessor in that only about 11,000 copies were sold. The reasons for this are not readily apparent. Good publicity was given to it at the press conference on 14th March (mentioned above) and H.M.S.O. too, gave attractive publicity. Probably the interest after a ten-year gap in census-taking was not so great as after the twenty-year gap which occurred before the 1951 Census. There was possibly lack of public appeal in the booklet's appearance and the date of publication might have been too late to capture interest.

Journals and magazines

In December, 1960, the "Classification of Occupations" which had been compiled by the General Register Office, was published. As there could be only limited interest in this publication the release of information to the press was directed chiefly to medical and sociological journals.

An attempt was made in the same month to interest the editors of women's magazines in the census generally but more particularly in the questions with which women would be specially concerned. Representatives of several women's magazines were invited to a conference in the General Register Office but only a few were sufficiently interested to attend.

Information about the census was passed to many other magazines and periodicals. As a result, some magazines with large circulation published interesting articles.

Posters

Publicity through the means of posters was directed particularly to factories and businesses employing large numbers of persons. An attractively designed poster was prepared to help employees with the completion of the schedules and to remind them to have the schedule ready for the enumerator when he called to collect it. In particular, help was given on the way in which the questions about occupation and industry were to be answered. Some 100,000

copies were distributed through employers and grateful acknowledgement is made to the many firms who co-operated by displaying the posters in their premises.

Several other methods were used, besides those described above, to publicise the census. Of interest is the use made by the firm producing crossword puzzles of clues supplied by the General Register Office. Publicity in schools was achieved through the distribution, on request from teachers and others, of some 1,000 specimen schedules.

In all the matters of publicity reliance had to be placed in the abundant goodwill and co-operation of other Departments and organisations. Of particular note was the extensive help given by the Central Office of Information in the production of the cartoon films and the posters and in many other ways. Acknowledgement and appreciation is extended to that Office and to all others who helped.

However, although the actual volume of publicity, especially from the Press, was very considerable, a review of this in retrospect suggests that it was rather patchy in its effect, especially as regards timing. Census items had to fight hard for their lives against the pressure of exciting world events, and were sometimes crowded out from the days and times when their impact could have been most valuable.

Enumeration

The census system aims at the highest possible accuracy in the answers, and requires the enumerator to do more than just deliver and collect the schedule. The efficiency of the system depends on the enumerator carrying out his various duties of collection, scrutiny of schedules and assisting the householder to give proper answers, and accounting for every dwelling and household, as near to census day as possible. Any substantial departure from this would lead to a serious falling off in quality and an added risk of duplication or omission.

The enumeration went smoothly and very little trouble or anxiety was caused in general. In the main the public were co-operative and disposed to give enumerators all the help they could. First reports to come in revealed that many of the public had still not heard of the census, and enumerators in the first days of distribution were called upon to give much more explanation than had been expected.

As census day approached there were about 100 reports to the General Register Office of households who had not yet received schedules; delivery was finally arranged. This continued after census day for a few days, although the emphasis soon shifted to reports of schedules not collected, after the Monday following census day.

The enumeration faced the usual difficulty of any operation based on a house to house visit, (accentuated in the case of a census by the need to complete the operation with a narrow time-bracket), that is, the difficulty of finding anyone at home. Enumeration districts were planned generally to contain fewer households than in 1951 but there were still difficulties in completing the delivery of the schedules.

The enumerators were given a clear weekend in advance of census weekend to assist them to get their distribution and enumeration record complete by the Thursday preceding census day. This left a little time in reserve to deal with difficult cases or to correct mistakes by any enumerator who had not fully grasped the limits of his territory. There were numerous reports calling for last-minute action, but compared with the nation wide scale of the operation, they only covered a very small proportion of the job. All reported difficulty in making contact with householders to collect schedules and most of them had to make repeated visits to some households.

There was little evidence of opposition to the census, and this was generally from isolated individuals. There were enquiries about the need for some questions, especially those about marriage and children. Some opposition was focussed on the questions about marriage and children, especially by bodies concerned with women's rights, not so much because the questions were included but because they related only to women.

All sustained refusals to give information were reported, amounting to perhaps 450 in all out of a total of some 15 million respondents in England and Wales, an insignificant proportion. After correspondence with the General Register Office many of these people returned completed schedules. 96 summonses were eventually issued, 8 of them being withdrawn before hearing. 87 convictions were secured, one case being dismissed on a technicality. In 1951 there had been 57 convictions.

Refusals were followed up because the aim was to secure a complete enumeration. The number of sustained refusals was not in itself significant as

regards the effect on the statistics, but if action had not been taken there might well be many more at a future census and eventually census statistics would be impaired. About half of the refusals were complete. There were a variety of objections to individual questions, but only nine related their objection to the questions included in the sample.

The Post-enumeration survey

Various attempts have been made at previous censuses to assess the accuracy and completeness of the census enumeration, but these have mostly been indirect and limited in scope. Thus in the 1951 Census analysis a test was made of a small sample taken from the census and matched against the birth registers to assess the accuracy of the statement of age (this is described more fully at page 35 of the 1951 General Report).

Although it was generally felt that the enumeration came very close to complete coverage in England and Wales, it was thought valuable to be in a position to assess this by an objective test. Not only would this be a satisfactory proof of the efficacy of the enumeration methods, and valuable for this alone, but it would also be useful to show the reliability of the census count to local authorities, who have a particular interest in the population estimates founded on the census count because of their importance in the government grant calculations.

It was therefore decided that a post-enumeration survey should be conducted on a sample basis to assess the completeness of the census count of buildings, dwellings, households and population. While organized as a separate operation, it was carried out by census officers and selected enumerators as soon as possible after census day, and therefore was accepted by the public as an integral part of the census enumeration, as indeed it was since it is only a linked test of the working of the main enumeration. It was conducted on an entirely voluntary basis, although under the same pledge of secrecy as the main census, but the response was almost complete.

At the same time it is desirable to ascertain how well the census questions have been understood, and to throw light on this aspect a sub-sample of those included in the coverage check described above were interviewed by the enumerator, who was thereby able to complete a fuller questionnaire covering the same ground as the census questions.

The methods adopted to collect the post-enumeration survey material are described, and the results of the survey are examined and assessed, at page 25 and pages 44-54.

Processing

The main processing of the census results was carried out at Titchfield and Worthy Down, Hampshire. At Titchfield the schedules were examined and the information in them and the enumeration books coded. Some 25 million 80-column cards were punched with the information.

The punched cards were sent 22 miles to the computer installation at Worthy Down. There they were converted to magnetic tape which formed the input for the computer. A highly trained staff prepared programmes of instruction to the computer which produced statistics recorded on punched cards. Back at Titchfield these punched cards were used to produce tables for publication.

Costs

The cost of the census in England and Wales was estimated early in 1960 to be between £2,752,000 and £2,852,000. The final expenditure on the census by the General Register Office was £2,697,000 and by other Departments £400,000, a total of £3,097,000. The details are as follows -

	Estimate	Expenditure
	£	£
Headquarter's Costs	650,000 - 700,000	831,000
Census Advisory Officers	2,000	10,000
Census Officers	245,500	278,000
Enumerators	1,455,000	1,468,000
Ministry of Works)		140,000)
H.M.S.O. Printing & Stationery)	400,000	260,000)
Office Machines)	to	
	450,000	110,000)
War Office - Computer)		
	2,752,000	
	to	
	2,852,000	3,097,000

The expenditure includes the costs of the Post-Enumeration Survey, which were not estimated for and amounted to £26,000 of which £10,000 went to the Census Officers and the remainder to selected Enumerators.

Delay in producing results

With the use of a computer it was estimated that all results would be published within 2½ years of census day. Actually, although the preliminary report was published within 2 months of census day, the first county report was not published until March 1963, and the national reports were published from September 1964 onwards. It was 4½ years before computer running was finished and 5½ years before the last tables were published. The delay arose mainly from the combination of two factors, namely lack of experience in processing a large statistical exercise like the census on a computer, and on increasing demand for census statistics throughout the planning and processing stages. This increase in demand was part of a general expansion in the use of statistics for planning and could not properly be resisted; but, coupled with inexperience of computers, it resulted in a serious under-estimation of the number of programmers and the overall computer capacity required.

Programming began in the autumn of 1959 with the object of completing all programmes within 4 years. Eight programmers were trained initially but in 1961 a further 10 were recruited and trained. Eventually 72 man years were spent in programming over a period of six years compared with the original estimate of 32 man years over four years. In addition programming for all the economic activity tabulations was put out to contract. No additional programmers were recruited after 1961 because the long training period necessary before they would become effective would have diverted trained programmers from the main task. Also the computer capacity available was only sufficient to justify the employment of the existing staff.

The amount of computer running time required to process the census was seriously under-estimated. So much so that it was considered that the census could be easily processed by sharing the I.B.M. 705 installed for the Royal Army Pay Corps at Worthy Down. However by 1961 the R.A.P.C.'s own requirements had so far expanded as to exceed the capacity of one machine, and an additional machine was obtained in 1962. Both machines were then worked three shifts a day five days a week for the next eighteen months with occasional weekend working. In the final twelve months a large proportion of the census work was done by continuous shift work at weekends. Eventually some 15,000 hours of computer running time were used for census processing, equivalent to almost 4 years work on a double shift, not including the time spent in processing the main economic activity tabulations. To have completed census processing in 2½ years as planned would have required the use of an I.B.M. 705 for three shifts a day throughout the entire period, and a programming team capable of keeping it provided with work.

The position was aggravated by the fact that census processing was the junior partner in a shared arrangement, so that computer running time was not always readily available when required and the most effective use could not always be made of the time when it did become available.

These unforeseen difficulties of using a computer contributed about 16 months delay to the publication programme. The remaining delay was due to quite different factors.

First, the discovery that the ten per cent sample included within the census was biased led to extensive calculations to estimate the effect of the bias. This contributed an additional 3 to 4 months delay. Secondly the time needed to programme and investigate the results of calculations of empirical sampling variances, in order to assess the precision of the results of the ten per cent sample, was much longer than expected, contributing a further 3 months delay to the publication programme.

The experience gained in the course of processing the 1961 Census was, however, invaluable. The lessons learned have been applied to the 1966 Census, with the result that the basic aim of publishing the main results within two years of census day is likely to be met.

CHAPTER 2

Organisation and enumeration

Preparations in General Register Office

(a) Planning enumeration districts

The objective - One of the earliest tasks was that of planning the sizes and boundaries of the smallest areas to be identified at the census - the enumeration districts. Those areas were to be combined into larger areas to form Census Districts and the aggregation of Census Districts formed the country as a whole. In previous censuses, this work was carried out by local Census Officers, usually the registrars of births, deaths and marriages. It was decided to plan centrally for the 1961 Census, because of the complex nature of this work and the inability, through other commitments, of many registrars to produce an acceptable plan on time.

Planning instructions - The task began in Southport in July 1958. The instructions were to plan enumeration districts so that they contained about 250 households in urban areas (in 1951 this figure was 350); in rural areas the 1951 districts were to be retained unless there were good reasons for changing e.g. considerable building development in the area, or changes in local authority boundaries. During the early planning it was found that registration sub-districts were sometimes too large for efficient control. A new entity, the Census District, was accordingly introduced and limited to 70-90 enumeration districts, about 50,000 population. This meant the combination and re-division of some registration sub-districts to form the new Census Districts.

Recognition of boundaries - As the figures to be produced from the census were to relate to local authority areas, no boundary of an enumeration district could cross that of a local authority ward or civil parish. Thus each ward or civil parish comprised one or more enumeration districts. In a few instances, where population in a civil parish was too small, one enumeration district contained all or part of more than one civil parish but in such cases the enumeration district itself was divided to maintain the distinction between parishes.

Besides local authority boundaries and those of New Towns and conurbation centres, other boundaries were recognised at the request of the London County Council and the Universities of Oxford and Southampton. The effect of this action was to make available figures for the L.C.C. Community Areas and special tracts in Oxford and Southampton.

Materials used - The enumeration and census districts were planned on Ordnance Survey maps to the scale 6 inches to the mile. In densely populated areas, 25 inch maps were used.

The enumeration record books from the 1951 Census gave some indication of the numbers of households in the various parts of the enumeration districts. These were used to estimate the numbers of households in planning new districts. Most local authorities were very helpful in providing detailed information about development in their areas, which enabled the planners to take into account buildings which had been erected or demolished since the previous census in 1951.

Special enumeration districts - Certain establishments such as hospitals, prisons, military camps, etc., which were expected to house 100 or more persons on census night, were created special enumeration districts and excluded from the contents of the ordinary districts planned as above. This was to avoid over-loading districts which were planned on the basis of numbers of ordinary households, and to make them the particular responsibility of the census officer.

Enumeration district boundaries - As each district was planned, a textual description of the boundaries was written and in urban areas a tracing of the boundaries was also provided. The contents of each district in terms of roads, streets, etc., were also listed. The descriptions and tracings were eventually inserted in enumeration record books to enable the enumerator to identify the area for which he was responsible. Copies of these descriptions and lists were made by two "Thermofax" machines which were fast dry-copiers. These copies when assembled provided a complete plan of each census district for the use of census officers.

Allocation of random sample number - The planning staff were responsible also, for assigning a random number from 1 to 10, for the purposes of sampling, to each planned enumeration district. This was done with the use of a table of random numbers.

Effect of central planning - The experiment of planning centrally, in the main, was very successful. There were some difficulties where projected development had not taken place by the date of the census and conversely where there was more housing development, or demolition, than had been anticipated. Although known caravan sites had been noted during the planning it was impossible to forecast how many of the caravans would be occupied on census night. This too, created difficulties for enumerators in some areas. (For checking of plans by census officers see page 20).

(b) Enumeration of special classes

Armed forces - Conferences took place with the Service Departments to discuss the special problems involved in securing complete enumeration of people in defence establishments in the United Kingdom or on board naval vessels. Arrangements were embodied in an Admiralty Fleet Order, a Special Army Council Instruction and an Air Ministry Order, for enumerating people in defence establishments (whether serving personnel, civilian employees or dependants) the responsibility falling to the officer commanding each separate unit. Following consultation with the United States Air Force headquarters, responsible officers were appointed in each of the U.S. Air Force bases to enumerate people in those bases.

Where security arrangements permitted, Forces personnel and their dependants living in married quarters within the boundaries of the Forces station were enumerated by local enumerators. These people were therefore excluded from the responsibility of the officer commanding the station. Everyone else within the station was enumerated in consultation with the local census officer, or enumerator.

The Admiralty undertook the enumeration of all naval ships within Home Station limits, the schedules being forwarded direct to the General Register Office, Titchfield.

The schedule used for enumerating members of the Forces omitted questions on relationship to the head of the household (or collective establishment), fertility and migration and the questions about occupation and industry were in a much simplified form. People in married quarters and civilians within Forces establishments were enumerated on household or institution schedules containing a fuller range of questions.

Civilian shipping - People aboard ship were, in the main, enumerated by officers of H.M. Customs and Excise in accordance with an Omnibus Weekly Order issued by that Department amplified by instructions from the Registrar General.

The local Collectors of H.M. Customs and Excise were supplied directly with "S" schedules (i.e. the schedules as used for collective establishments with a few modifications to adapt them particularly for use on ships) and were responsible for their delivery and subsequent collection and despatch to the General Register Office.

The Collectors were instructed to enumerate all vessels in port which were berthed, moored or moving from one berth or mooring to another within the port limits at census midnight. Exceptions to this general instruction were:-

- (a) vessels with no sleeping accommodation
- (b) H.M. Ships in commission and vessels in Naval Dockyards
- (c) ships of foreign navies
- (d) vessels which by arrangement were enumerated by the local census officer.

They were also instructed to enumerate any vessel arriving in the port up to 15th May, which had not already been enumerated and which was at census midnight:-

- (a) in a British port or anchorage
- (b) voyaging between such ports or anchorages; or
- (c) on a fishing voyage without touching at a foreign port or a port of the Irish Republic.

Vessels enumerated under (a) were assigned to the port in which they had been at census midnight and for this purpose reciprocal arrangements were made with the other Census Authorities in the United Kingdom the Isle of Man and the Channel Islands, for the exchange of the schedules collected.

Census officers in port areas were given details of the areas for which

Customs Officers would be responsible for enumeration and were directed to confer with the Collectors to ensure that their respective areas of responsibility were clearly defined and understood.

Most of the schedules were returned to the General Register Office on the 29th April; the remainder were sent by the 26th May 1961.

Other special classes

Lighthouses and lightships - Arrangements were made with Trinity House and other lighthouse and lightship authorities for their co-operation in the enumeration of the population of the various lighthouses and vessels under their control. These arrangements applied only where the lightship or lighthouse was inaccessible to the Customs Officers or local enumerators. Where lighthouses were manned on the basis of a 24 hours shift, the staff were enumerated on return to their own homes on Monday 24th April.

The various authorities co-operated further by enumerating also any local inhabitants of the islands on which some of the lighthouses were situated, e.g. a farmer and his family on Flat Holm Island off Cardiff.

Gypsies - Forestry Commission Rangers assisted by enumerating encampments of gypsies and others in the New Forest and Forest of Dean. The local census officers co-operated with the Deputy Surveyors of the Forests in supplying and collecting schedules.

Homeless people - The enumeration of homeless people was undertaken by the police under instructions from the Home Office. Those instructions requested the police to enumerate, on household schedules supplied by the General Register Office, everyone found spending the night of the 23rd April in a barn, shed or kiln, under a railway arch, or on a stairway accessible to the public, or in the open air, and who did not, during the course of the night, go to an institution, shelter or common lodging house. Guidance was also given to the police on what information they should give or attempt to give about homeless people.

The completed schedules were delivered to local police stations and collected by the enumerators.

Security establishments - Special arrangements were made with the Ministry of Aviation to allow enumerators access to security establishments to deliver schedules for people who were living within the boundaries.

Travellers - Arrangements were made with organisations primarily concerned with travel by road, rail, air and water to ensure that travellers were enumerated. A special notice to road and rail travellers asked them to ensure that they were included on the schedule issued to the hotel, house, etc., which was their destination or, if that schedule had already been collected, to get in touch with the local census officer who would arrange for enumeration. If the traveller had already been enumerated before arriving at his or her destination, there was, of course, no action to be taken.

This notice, by co-operation with British Railways and the Road Transport organisations, was issued to everyone who would be travelling at midnight on Census Day.

The Customs Collector at London Airport issued copies of the above notices, to people leaving on internal flights to Glasgow and Belfast and who would be in the air at midnight on Census Day. Had there been any delay in the flights resulting in the passengers spending the night at London Airport, arrangements were made for their inclusion on the schedule issued for enumerating resident staff at the airport.

The various inland waterway authorities co-operated by requesting their lock-keepers and other employees to assist in the enumeration of people on barges or other vessels on canals.

Circuses - Because of the tendency for circuses to travel from one town to another during a Saturday night, arrangements were made with the circus authorities to assist in the enumeration of their travelling employees. Each of the larger circuses was created a special enumeration district (see p. 19) and schedules were issued in one town before the Saturday and collected by the census officer for the town in which the circuses spent Census night.

(c) Liaison with other census authorities

Fulllest consultation was maintained with the other census authorities in the United Kingdom in order to secure the maximum degree of uniformity in the census

results throughout the area. The Census Act, 1920, applies to Great Britain, and the Census Order, 1960, directing the 1961 Census to be held, also applied to Great Britain. There was necessarily very close contact with the Registrar General for Scotland, who had a similar responsibility for the census in Scotland, in all the formative stages of census planning.

As a result, the main census schedule was in all essentials the same in England and Wales and Scotland. The schedules in Scotland and Wales contained questions on the speaking of the Gaelic and Welsh languages respectively.

Close contact was also maintained with the census authorities in Northern Ireland, the Isle of Man and the Channel Islands. While local conditions did necessitate some additions to or omissions from the schedules used in those areas, there was no divergence in the essential particulars collected.

Uniform arrangements were made in all areas for dealing with the special classes of population, such as the Armed Forces, seamen, merchant shipping and fishing vessels.

Local organisation

(a) Officers

The Census Regulations, 1960 differed from earlier regulations in that no duties were specifically assigned to any one class of officer. The Act permits the Minister of Health to make regulations "..... requiring superintendent registrars, registrars, and such other persons as may be employed for the purpose of the census, to perform such duties as may be prescribed." In fact, the bulk of the officers employed as census officers were registration officers but the regulations did not impose duties upon registration officers as a whole. Rather they prescribed enumeration districts, census districts and areas and provided for the appointment of officers to supervise each of those districts or areas.

(i) Census advisory officers

In 1951 this title was reserved for those superintendent registrars who voluntarily accepted the honorary title to enable them to give such assistance as they were able to the registrars (census officers) engaged on census duties within their registration district. In 1961, the post was offered to specific superintendent registrars who, it was deemed, would inevitably become involved in the census. The officers who accepted appointment were given specific duties within particular areas and paid for their services. Some 115 superintendent registrars were appointed census advisory officers.

Their duties were

- (a) to recruit, interview and select enumerators and to give them general briefing as to their duties and
- (b) to answer enquiries made to them by the press, local officers or other persons seeking information about the census.

The response of the census advisory officers to their duties was very varied. In a few areas they arranged for the help of interpreters during the enumeration and generally gave valuable assistance to census officers and enumerators. In other areas, there was a feeling amongst census officers that the advisory officers were usurping their functions and consequently co-operation was difficult. The employment of these people as paid officers for a specific job was something of an experiment for this census; generally it was not considered the experiment was successful.

The payment of Census Advisory Officers was calculated on the basis of 7s.6d. for each ordinary enumeration district in the area for which a Census Advisory Officer had accepted responsibility for certain duties.

(ii) Census officers

One of the early decisions necessary was to determine what groups of people should be approached for appointment as census officers. Hitherto, officers in the registration service were appointed in accordance with the regulations which prescribed duties for them as registration officers. The wider scope of the 1960 Regulations meant that some consideration should be given to employment of, for example, officers of local authorities. The burden of the census falls heavily upon registration officers. Their normal registration duties must continue to be discharged at a time of year when those duties are heaviest.

Against this, there are well-established lines of communication between the General Register Office and registration officers, who thus constitute a field force on which local enumeration can be centred. It was decided, therefore, to make the first call on the services of registration officers but to lighten their census duties as much as was possible. Formal letters of appointment to the post of census officer were sent to registration officers in October, 1960. Provision was made with the letters of appointment for officers to give the undertaking required by the Act, i.e. faithfully to perform the duties imposed upon them by the Act and Regulations. Because of the creation of more census districts than there were registration sub-districts and the inability, for one reason or another, of some registration officers to undertake census duties, 81 census officers were appointed from outside the registration service. The task of finding those officers fell to H.M. Inspectors of Registration.

Of the officers appointed from outside the registration service 55 were officers of local authorities; the remainder included retired civil servants and registration officers, a retired brigadier and a retired theatre business manager. 1,200 officers were appointed from the registration service.

1,315 Census Officers were appointed. Payment was based on the following fees -

1. Basic allowance for general duties	£20. 0s. 0d.
2. Allowance for each ordinary enumeration district in the Plan of Division as finally constituted (including the formal appointment of the enumerator)	12s. 6d.
3. Allowance for each Special Enumeration District	£1. 0s. 0d.
4. Allowance to Census Officers, for each ordinary Enumeration District in the Census District, for the recruitment, selection, and general briefing of enumerators. (Payable in districts where no Census Advisory Officer was appointed).	5s. 0d.
5. Allowance for the checking of each Enumeration District in the draft Plan of Division	7s. 6d.
6. Allowance per complete 100 of the population enumerated in a Census District	6s. 0d.

(iii) Enumerators

To those unfamiliar with modern census taking there is a general impression that the enumerator's task is the simple counting of the population through the delivery and collection of forms. This of course was not true of the 1951 enumeration and was even less true for the 1961 Census. The instructions, in fact, were so full and complex that many applicants for the post of enumerator in 1961 rejected the job on sight of the enumerator's instruction book. Not only does the job require the mastery of those detailed instructions but also some measure of clerical ability plus stamina and the physical ability to complete the rounds of the districts from house to house, mostly on foot, in the allotted time.

The task of recruiting enumerators required co-ordinated action in several different fields. Experience has shown that the best people with the qualifications required are those in local authorities, the Civil Service, and the teaching profession. In addition, fair opportunity should be given to qualified people who were unemployed to come forward. Thus all those people, local authority officers, civil servants, teachers and the unemployed, had to be given the opportunity to volunteer and, where necessary, to obtain permission from their employers to devote the time necessary for the enumeration.

Conferences were held with local authority associations and the Ministry of Labour. Co-operation of H.M. Treasury and the Ministry of Education was also sought. As a result circulars calling for people to act as enumerators were sent out early in January to local authorities, Government Departments, local education authorities and employment exchange managers. At the same time local census advisory officers and census officers were given detailed instructions for dealing with applicants.

A public announcement was made in the national and local press on 9th January, 1961 but the news had "leaked" a few days earlier. A flood of applicants came forward in most of the urban areas. In Birmingham, for example, 4,000 applications were received for 1,500 enumerators' posts.

The mass of applications for posts fell heavily on census officers in some town areas. They had neither staff nor equipment to handle all the correspondence arising from applications. Unsuccessful applicants had to be told and some wanted to know why they were unsuccessful. Having decided upon the applicants he required, the census officer was faced with a further round of correspondence

to find replacements for those who rejected the job on seeing details of the duties involved and particularly the book of instructions. In an average district of some 60 enumeration districts the mere task of assembling and instructing a team of enumerators involved a great many hours' work.

In contrast in some of the London Boroughs local officers were faced with insufficient applicants for the posts available. In rural areas, too, there was some difficulty in finding people willing to serve as enumerators, but many of those who were enumerators in 1951 came forward again. There was one who volunteered to enumerate the people on one of the Islands but declined payment for his services on the grounds that it might compromise his quest for the independence of the Island!

Of the enumerators appointed 35 per cent were local government officers, 27 per cent civil servants and 11 per cent housewives. Some 150 enumerators were aged 70 years or over and one who was aged 83 had served as an enumerator from the 1901 Census onwards.

The form of application for appointment of an enumerator was in two parts. One part provided guidance to applicants on the qualifications needed and the nature of the job and the other part, which was detachable, provided for the formal application and subsequent appointment of the enumerator.

In all, some 68,900 enumerators were appointed. In addition about 100 assistants to enumerators were also employed. The need for such assistants did not become apparent until the week of the census when it was found that projected development in some areas had moved more rapidly than had been estimated producing too many households for coverage by one enumerator.

There was general advice to census officers to avoid the appointment of enumerators in districts where they might have been known to householders. This of course was to recognise the reluctance that some people may feel in making available to someone known to them many personal details about themselves and their families. In some rural areas however, census officers were unable to avoid such appointments. Usually any one who knew an area well enough to seek out every household was well known by the householders. In some urban areas too, by mischance, the enumerator was known to one or more of the residents within the enumeration district. Where complaint was made, permission was given for the householder to return the completed schedule direct either to the local census officer or to the General Register Office. In one large block of apartments in London where the enumerator was known to the residents nearly all the schedules were returned direct to the General Register Office. An unfortunate aspect of this arrangement was the failure of many of the householders to give a complete return. In the normal way the enumerator would have been able to obtain missing information before leaving the premises.

The payment of enumerators was based on the following fees -

- | | |
|--|--------------|
| 1. Basic allowance for general duties | £12. 0s. 0d. |
| 2. Allowance for each household or institutional establishment from which Census schedules were collected. | 9d. |
| 3. Mileage allowance - | |
| (1) where a circuit of the enumeration district by way of every habitation, was in excess of 5 miles, for every complete mile which was traversed in covering such excess three times, | 1s. 6d. |
| (11) for each mile necessarily travelled to and from the nearest point of the enumeration district to and from the Census Officer's office. | 9d. |

In addition to the above, allowances were made to Census Officers and enumerators for their duties in connection with the Census of Distribution and there were special fees for the Post Enumeration Survey. All expenses in connection with the Census of Distribution were recovered from the Board of Trade.

(b) Local accommodation

As most of the census officers were also registration officers, the accommodation used for normal registration business was adapted for additional use on census duties. In something like 140 census districts, however, existing accommodation was unsatisfactory and temporary arrangements had to be made locally.

The need to meet expenses for additional accommodation arose from two main

causes (i) the existing office was too small to store the mass of census material and (ii) the enumerators could not be housed for briefing sessions. The additional offices and rooms hired for census duties were in places such as local council offices, professional offices, and private homes. The use of these places was obtained for an average of about £30 each over the period mid-March to mid-June. Charges for heating, lighting and cleaning were also levied in a number of districts where registration offices were used outside normal hours on census duties. One claim made for the services of a cleaner was aimed at re-imbursing the census officer's wife.

For briefing enumerators, village halls, church halls, council chambers and other large rooms were hired. In the main this was because available rooms were too small but in a number of areas the object was to arrange briefing sessions in various localities within the census district to avoid excessive travelling by enumerators.

The total sum paid for additional accommodation was just over £1,000. It is clear from this that many local authorities allowed their accommodation to be used for census purposes free of charge, and acknowledgement of this help is gratefully given.

Local officers' duties

(a) Sampling procedure

To achieve the aims of sampling in private households described on pages 4 and 5 two forms of household schedule were prepared. One contained the full range of questions, the other a shorter list. The blank schedules were sorted into packs so that the schedule containing the full range of questions appeared at every succeeding tenth position; the first of these schedules was in differing positions from first to tenth for different enumeration districts according to a random number from one to ten allocated to each district.

The enumerator's instructions were to deliver the schedules to private households from the top of his pack of schedules in the order in which he made contact with householders. In this way, a random sample of one in ten of the households in his enumeration district would have received a schedule containing the sample questions. The object of the varying positions for the sample schedule in different enumeration districts was to avoid, as much as possible, any bias that might occur through the enumerator's natural tendency to begin delivery at a corner dwelling. The enumerator was not meant to have any discretion in deciding which household received the sample schedule; this was a matter of chance depending upon the order in which he made contact, and the random placing of the first sample schedule in his pack. Unfortunately, as described on page 78 enumerators did exercise choice in delivering the sample schedule, with the result that the sample was biased.

For institutional premises such as hotels, hospitals, residential schools, etc., sampling was conducted on the basis of individuals rather than establishments. The special schedules ("I" Schedules) issued to those establishments were in two main parts. The first part, on one side of the form, contained only the questions to be asked of all the population. Numbered lines provided for the entry of the particulars for ten persons. In Part II on the reverse of the form were the sample questions with provision for the entry of particulars in respect of one person only. The person for whom the additional particulars were to be given was determined by a line number recorded at the top of Part II of the schedule and referring to the person whose name was entered on that line on the reverse of the form.

As were the household schedules, "I" schedules were pre-arranged in packs with the schedules in sequence according to the variable line number from 1 to 10 recorded in Part II of each form. Before issue to the enumerators the schedules were arranged so that the first "I" schedule bore a sample line number in accordance with the random number allocated to the first and only the first enumeration district within the census district. Thereafter the schedules with the same sample line number occurred in every tenth position in each enumeration district. To assist further in the random distribution of "I" schedules, the census officer was instructed to issue them to enumerators in multiples of three. The enumerators and the persons responsible for completing the schedules were requested to use the forms in the order in which they were issued.

The above sampling arrangements applied also to the schedule "S" issued for ships but no sampling arrangements applied for the enumeration of Forces personnel on schedules "N.M.A. (Home Forces)". There was 100 per cent enumeration of those personnel but sampling was carried out in the Census Office to avoid all people appearing in the sample tables.

The measure of the success of these sampling arrangements is recorded in Chapter 2 of Part II.

(b) Census officer's duties before census

Checking plans - With the decision to plan enumeration districts centrally there was some concern as to their accuracy and effectiveness when applied locally. During the early part of 1960 some of the plans drawn up by the staff in Southport were sent to selected registrars for checking and comment in the light of their local knowledge. This trial re-assured the planning staff and enabled them to go ahead with the planning of all areas on the same basis.

The ultimate objective was to get final plans to census officers in January, 1961. To achieve this, the plans had to be checked locally as soon as possible. Local registrars were asked to undertake the checking for all census districts falling within their registration sub-districts. They were asked particularly to ensure that boundaries were adequately described and that each district was of a size that could be handled by one enumerator. Further, they were asked to check that all new development and demolition since 1951 had been taken into account.

The main work of checking by the registrars was begun in July, 1960 and completed before the end of the year. A fee of 7s.6d. per enumeration district was paid for this work. In some areas where considerable amendment to the draft plan was necessary additional payments were made.

This operation could not be considered wholly satisfactory. Whilst many registrars made helpful suggestions for improvement of the plans, it was clear that in some areas the minimum of checking had been undertaken. Further, there was some element of dissatisfaction among those census officers who were not registrars, who had to operate with plans checked by others. In any future operation of this kind the work should be carried out by the person formally appointed for the census district.

Appointment, instruction and equipping of enumerators - With the final plans of enumeration districts in his hands, the next task of the census officer was to assemble his team of enumerators. Reference was made earlier to recruitment and general briefing (see page 17); the census officer was required to make the formal appointment of enumerators and assign them to enumeration districts. There was no reference back to the Registrar General for confirmation of appointment as was done in 1951; the responsibility rested squarely with the local officer. He himself was responsible for the enumeration of all special enumeration districts. He had to ensure that the enumerators knew the boundaries of their districts by referring them to his map of the census district and the description of the enumeration district with which each enumerator was supplied. He was to point out any particular difficulties that might be met in specific districts.

There was evidence even at the time of the census that the overall job of instructing the enumerators had not been carried out satisfactorily everywhere. The success of the enumeration depends basically upon the work of the enumerator and he must understand the job he is to do. The evidence of bias in the sample, which came to light later, merely underlines this point. More will need to be done in the future to ensure that the enumerators receive fuller training and supervision.

In February, 1961, the census officers received comprehensive instructions as to their duties and visits were made to several areas by headquarters' staff to explain the duties to groups of officers and to answer questions on them. Such visits occurred mainly as a result of local requests. Their success indicates that, for the future, visits to various areas should be planned in such a way that all census officers should have an opportunity to learn about the census direct from headquarters' staff and be able to have their questions and doubts settled at such meetings.

Census schedules and other documents began to reach census officers during March and with their arrival the amount of work began to build up. One particular task which caused trouble in many areas was the arrangement of schedules for issue to the enumerators. The sampling arrangements described earlier were that household schedules should reach census officers in packs with sample schedules in every tenth position. Similarly institution schedules should have been arranged in the sequence of the sample line numbers. Many census officers soon found that these arrangements had miscarried which meant that before they could issue to enumerators, they felt bound to check through every one of some 50,000 schedules to ensure that sample schedules occurred in every tenth position. When satisfied with the order of the schedules the census officer arranged each supply in accordance with the random starting point

allocated to each enumeration district.

(c) Confidential returns - procedure

The arrangements for issuing and collecting separate schedules for the purposes of confidential returns were necessarily complicated by the introduction of sampling methods. People who wanted to make a separate confidential return could apply to the enumerator or census officer for a separate schedule for this purpose. Provision was also made, in the Census Regulations, for the manager, chief resident officer, etc., in special enumeration districts to issue schedules for the purposes of making separate confidential returns.

The system was controlled by the issue of a small form with each separate schedule; part of it was attached to the separate schedule and the other part, if possible, to the corresponding main return. The person making the main return was instructed by this form to enter on it only the name and relationship to him of the person making the separate return. Instructions were complicated by the necessity to ensure that the separate schedule issued for someone in a private household was of the same type, i.e. sample or non-sample, issued for the household. In institutions, only the sample type schedule i.e. an E.10 or W.10 was issued and the manager or other person completing the main return was instructed to inform the applicant for a separate schedule whether his name was entered on a sample line of the "I" schedule. This enabled the applicant to decide whether or not to complete all or part of the separate schedule issued.

To reduce the number of unnecessary applications enumerators were instructed to endeavour tactfully to ascertain the reason for the request as possibly the person concerned had an erroneous idea of the questions which were included on the census schedule. They were not, however, to refuse any persistent request. Certain people such as members of the Forces of the Crown in barracks, stations, etc., people receiving mental treatment and prisoners were debarred by the Regulations from obtaining a separate form.

(d) Enumerator's duties

Distribution of schedules - Before beginning delivery of the schedules, the enumerator was instructed to ensure that he knew the boundaries of his district by studying the census officer's map and the actual description of his enumeration duties and by making a preliminary tour. The latter also enabled him to plan the best route to take so that he could be sure to visit every building in his district and not those outside his district. During the distribution of schedules it was apparent that many enumerators had failed to observe this instruction. Within a few days of the start of delivery, about 50 reports were made to the General Register Office that enumerators had delivered schedules in their neighbour's territory.

The enumerator was instructed not to begin delivery before Saturday, 15th April but that he should make every effort to complete the distribution of schedules by the following Thursday, 20th April. During delivery, the enumerator carried with him his instruction book and a separate record book. In the latter he recorded details of every building, dwelling, household and occupier and the type and number of schedules issued to each occupier.

The detailed instructions for identifying different types of building, structurally separate dwellings and separate households were among the most difficult for the enumerator to grasp and it is clear from the record books that many did not understand what was required. It may well be wiser for the future to loosen the instructions by aiming at simplicity even if, by so doing, fringe groups become wrongly classified.

When delivering schedules the enumerator had to enquire also the number of rooms occupied by private households and the number in hotels and boarding houses. Where two or more households shared a dwelling he was required to ask whether each household had exclusive use of a kitchen stove or range and a kitchen sink.

When satisfied as to the type and number of schedules required by each household or establishment, the enumerator wrote the householder's (or manager's, etc.) name and address on the schedule and issued it with the request that it be completed ready for his collection at an approximate specified time on Monday, 24th April. He could suggest that the schedule be left with a neighbour if there would be no member of the household available at that time.

For certain hospitals and nursing homes a leaflet had been prepared as a guide to the person completing schedules for those establishments, for the entries about usual residence that should be made for the patients and inmates. The enumerator was responsible for issuing those leaflets with the schedules to

the institutions specified by the census officer.

Collection of schedules - The main instructions to enumerators on collection were: "On Monday, 24th April, you must collect as many as possible of the schedules which you have delivered. Any that you do not collect that day must be collected on the following day." This instruction proved an impossibility in most areas because householders were found to be out and many frustrating return calls were made. As he collected each schedule, the enumerator indicated its collection by marking the entry already made in his enumeration record book.

If a household had moved away since his previous visit the enumerator was instructed to show in his record that the property was vacant; if the household had been absent on census night he recorded "Occupier absent". If a new household had moved in, he could accept either the schedule which had been issued in the district from which they had moved or the schedule he had issued for completion by the previous occupier.

If during his collection the enumerator discovered a household that he had missed, or if a schedule issued had been lost, he endeavoured to have a schedule completed forthwith. He was instructed to watch particularly for any caravan or similar temporary dwelling or any river craft, which had arrived in his district since he had delivered schedules.

The enumerator was instructed to examine collected schedules briefly before leaving the premises to satisfy himself that there were no obvious errors or omissions. If there were, he was instructed to obtain the correct information as tactfully as possible and enter it in the schedule.

When the collection was completed the enumerator reported the fact to his census officer. The aim was to report completion before Wednesday, 26th April but in most districts this was not possible.

Checking and completion of duties - Where the enumerator had collected any separate confidential returns (see page 21), he was required to transcribe the particulars on to the appropriate household or institution schedule. Next he numbered in sequence all the completed schedules (apart from the separate confidential returns); schedules relating to the same establishment were given the same number. The schedule numbers so allocated were copied in his enumeration record book.

He was required to examine the schedules for errors and omissions and in particular to

- (a) verify, so far as was possible, that the sex was correctly stated;
- (b) count the number of males and females, enter the totals in the spaces provided on the schedule and ensure that the total agreed with the number of persons entered on the schedule;
- (c) obtain fuller or more accurate information from the person responsible for making the return, where he discovered omissions or errors;
- (d) re-write any schedule that was torn, very dirty or illegible.

To minimise the cost of carriage and storage of household schedules, provision was made for the removal of the printed questions from each form (see page 5). When the enumerator's examination was complete he tore off the questions and destroyed them.

From the schedules, the enumerator completed his enumeration record by entering totals of males, females and persons for each household. He then totalled the columns in his record to arrive at the overall totals of males, females, persons, dwellings, private households and rooms in his district. He also provided a total of those entries which he had marked "Occupier absent".

Population report card - Each enumerator was provided with a population report card E.7 (reproduced on page 26). This card was specially designed for "mark sense" punching which formed the basis of the Preliminary Report. (see page 27). The enumerator was required to strike through the appropriate figure in each column which represented the corresponding figures in his totalled record showing persons, males, females, dwellings and households. He also marked the columns for "Enumeration District No." for identification. The card was pre-punched before issue to show other identifying particulars.

Precise instructions were given for marking the cards using a soft black lead pencil. The card was to be placed on a smooth hard surface, to carry out the marking. Despite those instructions some cards were completed in ink or

biro pen and one enterprising enumerator carefully cut out rectangular horizontal holes in each position that a mark should have been made. These were useless for the machine processes that were to follow.

The enumerator's instructions were to post the card in an envelope provided, to the Census Branch, Titchfield, not later than Sunday, 30th April, 1961.

Final duties - Following his completion of the enumeration slips CD/E.1 (described on page 26) the enumerator delivered those slips, the schedules and enumeration record book to the census officer by Monday, 8th May. Upon delivery of all the material he was required to give a certificate that he had properly and sufficiently performed the duties and obligations imposed on him by the Census Act and Regulations.

(e) Census officer's duties during enumeration

The census officer was required to report to the General Register Office on Wednesday, 19th April, that everything was in order, or, if not, what was wrong. The main objective of this system was to assure Census Branch that everything was proceeding satisfactorily in all districts. The system miscarried, however, since a very large number of officers failed to report at the due time, partly due to forgetfulness and partly because they were so overwhelmed as to be unable, conscientiously, to report everything in order.

The census officer's main injunction during the enumeration was to remain in his office so that his enumerators could readily contact him in case of emergency. In particular he was instructed to stay on duty in his office on Monday, 24th April. In fact, his services were very much in need on Saturday and Sunday, 22nd and 23rd April. Householders who had been missed during the delivery of schedules were requiring guidance and enumerators who had exhausted their supplies were needing to replenish them. Unfortunately, not all census officers were on hand to deal with those needs. In consequence it fell to staff in Census Branch to deliver schedules in the London area during the Saturday and Census day.

Census officers had to replace immediately enumerators who were unable or unwilling to carry on with their duties. Where difficulties arose through a householder's refusal to give information to the enumerator the census officer had to do his best to obtain it; failing that, he was required to report the facts to the Registrar General with a view to possible prosecution. Refusal was often due to a clash of personalities between enumerator and householder many of which were resolved by the census officer's intervention.

During the week following the census, the census officer received reports from his enumerators advising that collection was complete; any that he did not receive had to be investigated. Where there were special enumeration districts he collected and examined the schedules. When all the schedules in his district had been collected, he was required to report this to the General Register Office.

For the special enumeration districts, the census officer was required to perform all the duties of an enumerator including the completion and despatch of population report cards E.7, as described on page 22.

(f) Census officer's duties after enumeration

Immediately following the census, the census officer had duties to perform in connection with the post-enumeration survey, absent households and the Census of Distribution. Those duties are described on pages 24 and 25.

Checking schedules - By the 8th May, he should have received the enumeration record books, schedules and all other documents from his enumerators. Next began the major task of checking the schedules and coding some of the addresses. Checking involved:

- (a) seeing that the schedules had been correctly numbered;
- (b) ensuring that the reference numbers of the census and enumeration districts appeared on each schedule;
- (c) verifying that each entry was complete and that there were no apparent inaccuracies. Where omissions or major errors occurred he instructed the enumerator concerned to re-visit the household to obtain the required particulars. Any insertion or correction necessitated by those enquiries were made by the census officer in red ink.

Coding - In 1951, information necessary for assigning area codes to the addresses of usual residence and place of work was obtained through a rather

ponderous system of exchange of prepared post-cards between one census officer and another. For 1961, this system was abandoned and the task of assigning area codes was shared by the census officers and the Census Branch, Titchfield.

A prepared letter was sent to each officer showing the area codes for local authority areas in and surrounding his district. Also supplied were the area codes for places where large numbers of people were employed. The letter instructed the census officer to code with the letter "X" addresses which were within the local authority in which the person was enumerated. Addresses outside the area of enumeration were coded in accordance with the list of codes supplied provided that the census officer was certain of their location. If he was in any doubt he was instructed to leave the address uncoded.

For local authority areas through which the boundary of a conurbation centre passed, the census officer was provided with a map showing part of the central area and a list of area codes for addresses that were within or outside that area. Similarly for New Towns census officers were required to code addresses according to their location within or outside the New Town boundary with the aid of their census district map and a list of the appropriate codes.

The addresses with which census officers were concerned were usual residence in column C of the schedule and, in respect of people in the sample any previous addresses in column N (iii) and the address of place of work in column R (c).

Binding and despatch of schedules - After checking and coding the schedules the census officer separated them, according to size, into three main groups - sample schedules (E.10 etc.), non-sample schedules (E.90 etc.), and institution, shipping and Forces schedules ("I", "S", "NMA"). Ancillary schedules used for confidential returns and spoiled forms were packed together separately.

The sample schedules for up to ten consecutive enumeration districts were placed in one binder. Generally one binder was used for the non-sample schedules for each enumeration district. An overriding instruction was that no one binder should contain schedules relating to different local authority areas. No binders were provided for the third group of schedules; these were arranged, regardless of type, in numerical order of enumeration district numbers and in order of schedule numbers within each enumeration district.

The despatch of schedules to the Census Branch, Titchfield was phased over the period May to July, 1961. The objectives were (a) to allow more time for checking the schedules to as many census officers as possible, (b) to arrange the receipt of schedules in Titchfield in manageable numbers, and (c) to get some schedules to Titchfield as early as possible so that processing could begin. Each officer was given a specific week in which to despatch his schedules. The various Regions of British Railways were advised of those dates so that they could arrange immediate collection as soon as the census officer told the local Goods Agent that the packages were ready.

Despatch of other documents - The census officer was instructed to send the Ordnance Survey map and plan of the enumeration districts to Titchfield not later than 22nd May, 1961. Forms of appointment of enumerators were sent as soon as their final payments had been made.

The enumeration slips CD.E/1 for the Census of Distribution were grouped into wards of urban areas and rural districts and sent to the Board of Trade Census Office.

(g) Absent private households

As will be seen from the duties recorded on page 22 enumerators were required to note their record to show all private households where every member of the household was absent on census night. Information was required about those absent households in order to complete the census data about private households and dwellings. The information was sought on a voluntary sample basis and enquiries were entrusted to census officers. They undertook this work as soon as the more urgent tasks concerned with the census had been completed.

To select the households for enquiry, the census officers were instructed to arrange their enumeration record books in order and to number, in sequence, all the entries marked "Occupier absent" beginning with enumeration district numbered 1. Each officer was given a randomly chosen number between 1 and 100 and he was told to select from his numbered absent households, the household corresponding to the random number. Thereafter, he selected every household with the random number plus 100, 200, etc. E.g. for a district with random number 45, the census officer selected the 45th, 145th, 245th, etc. absent households numbered in the enumeration record books. In this way information about one per cent of the absent households was obtained.

Where the census officer was able to make contact with the selected households, he was required to obtain the following facts:

- (i) whether all the members of the household were absent from that address on census night;
- (ii) whether they were enumerated as a separate household elsewhere in England and Wales
- (iii) the number of persons usually resident in the household;
- (iv) the number of rooms occupied;
- (v) whether the rooms were a separate dwelling;
- (vi) where the dwelling was shared, whether the household had a separate stove and sink.

Where the census officer was unable to make contact or where information was refused, he was not required to substitute another household nor seek information from anyone else.

(h) Local officer's duties for Census of Distribution

The work undertaken for the Census of Distribution has been described generally on page 7. The instructions to enumerators and census officers covered the information to be recorded, copied and sent to the Board of Trade. Descriptions and examples of the kinds of premises to be included and those to be excluded, were included in the instructions.

Whilst the enumerators were compiling the record of all buildings in their enumeration districts they were required to enter in their record book the nature of the business and the name of the proprietor, company, etc., for all premises engaged in the retail and building trades. All the information was to be obtained by outward inspection of the premises; if it could not be obtained in that way it was to be omitted.

After the enumeration the enumerator was required to copy particulars entered in his record on to enumeration slips CD.E/1, reproduced on page 26. To assist processing by the Board of Trade, the enumerator entered one letter only in each frame of the grid provided.

The completed slips were passed to the census officer for general scrutiny and despatch to the Board of Trade.

(i) Post-enumeration survey

The general aims of this survey have been described on page 11 and full details are given on pages 45-50 in Part II of this Report.

The work involved in conducting the survey was akin to a census in miniature, requiring planning of districts, distribution of questionnaires and summary of results.

The plots were selected, traced on a map and described in terms of recognizable landmarks by the planning staff in Southport.

Instructions on the survey were issued to Census Officers on 5th April but details of the plots were not supplied until 24th April, 1961, after the census, so that enumerators could not introduce bias into the results.

Each census officer had on average 2-3 plots but some had none and the maximum was six. He was required to select his best enumerators and hand them forms completed as described on pages 55-64 together with detailed instruction on their duties. The survey was to start as soon as possible after 1st May and be completed by 15th May, 1961.

A fuller description of the survey appears on pages 45-50.

Population record card

CENSUS ENGLAND AND WALES 1961	ENUMERATION DISTRICT NO. <div></div>	POPULATION REPORT CARD	E.D. NO.	PERSONS <div>1000 OR OVER</div>	MALES <div>1000 OR OVER</div>	FEMALES <div>1000 OR OVER</div>	DWELLINGS	HOUSEHOLDS	E.7 FOR USE AT CENSUS OFFICE AREA | DIST. | NO.											
			0	0	0	0	0	0	0	0										
			1	1	1	1	1	1	1	1										
			2	2	2	2	2	2	2	2										
			3	3	3	3	3	3	3	3										
			4	4	4	4	4	4	4	4										
			5	5	5	5	5	5	5	5										
			6	6	6	6	6	6	6	6										
			7	7	7	7	7	7	7	7										
			8	8	8	8	8	8	8	8										
9	9	9	9	9	9	9	9													
IBM UNITED KINGDOM LTD.			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	70 71 72 73 74 75 76 77 78 79 80 GENERAL REGISTER OFFICE

Form used for Census of Distribution

ENUMERATORS' SLIP															FORM CD.E/1.										
Owner of Business or Trade Name (in block letters)																									
																Remarks									
Number and Street (in block letters)																									
Town and County (in block letters)																									
Kind of Business																									
For Board of Trade use only																									
Registration Number																Form No.			I	M					
																			S	C					
51-4538 E.N.M. & S. (B6401)																									

CHAPTER 3

Processing and publications

Production of the Preliminary Report

The urgent need for the production of basic figures from the census was recognised by the General Register Office and speed was the governing factor influencing the provision of preliminary figures. Although every effort was made to provide accurate figures, accuracy was abandoned for about 300 enumeration districts where, to secure it, delay would have occurred. Towards that aim of speed, reports from enumerators were sent direct to the Census Branch, Titchfield and not through local census officers as was done in 1951. The method of reporting on machine cards (described on page 22) was also aimed at avoiding the time necessary to convert the figures to punch cards manually. These were methods, untried at any previous census and, in consequence, not all of the plans made were wholly successful.

Processing of report cards E.7 - Enumerators and census officers were instructed to post their completed cards by Sunday, 30th April. Even if some of the schedules had not been collected, officers were, none the less, instructed to post the cards showing the totals reached by that date. Despite those firm instructions, only about a third of the total reached Titchfield by Monday, 1st May. It was not till Thursday of that week that the bulk of the cards had been received.

The first process was to pass the cards through a "mark sense reproducing machine". This machine was designed to punch holes automatically in respect of the figures marked on the cards. Essentials for its proper functioning were

- (a) the cards should not be creased or damaged in any way;
- (b) the marks should be in black lead pencil and join the brackets enclosing each figure;
- (c) the marks should be firmly made in a continuous line.

Some thousands of the cards received offended one or all of those essentials, and time was wasted during which some 15,000 cards were re-marked. In addition about 24,000 cards were punched manually, because either they were damaged or had been wrongly completed by the enumerators. For example, in some cards the figures for hundreds, tens, and units, were marked in a single column, in others all the figures were deleted except those that were required.

When punched, the cards were sent from Titchfield to the computer installation at Worthy Down. There, the records were transferred to magnetic tape and subjected to a series of tests and edits in the computer. The effects were to raise for enquiry figures that were apparently inconsistent with expected results and figures that were inconsistent within any one enumeration district, e.g. the totals of males and females did not add up to the number of people. Thousands of enquiries emerged from the computer which had to be resolved in Titchfield, frequently by writing or telephoning the census officers. Further processing by the computer revealed that reports from about 1,500 enumeration districts had not been received. Letters were sent to the census officers involved, requesting them to telephone to Titchfield or to Census Branch, London, the figures that were entered in the record books for the districts under query. On the 11th May, some 300 such letters were despatched involving over 1,000 enumeration districts. On the following day, five officers in London were engaged almost full time in manning telephones to receive the reports from census officers and to transmit the figures to Titchfield. The Branch at Titchfield was similarly inundated with incoming reports besides originating further calls to obtain information. A particularly mysterious problem at that time was that apparently no reports at all had been received from any of the enumeration districts in about six Census Districts. After diligent searches had been made in Titchfield and Worthy Down, it was discovered that those census officers had collected all their enumerators' report cards intending to despatch them to Titchfield en bloc; had they done so immediately, confusion and difficulty would have been removed.

During Saturday, 13th May, a halt was called to further enquiries in Titchfield and appropriate figures (calculated earlier) were incorporated for those districts from which no return had been received. The staff of the General Register Office at the computer installation then began processing the

information to obtain the figures needed for the tables of statistics to be published. The staff worked throughout Saturday night so that by Sunday figures in the form of punched cards and a manuscript commentary on the results were available in Titchfield for the next stage of production.

The punched cards from the computer were fed into an automatic typewriting installation, the "Cardatype" (I.B.M. 858). (See page 38). The first batch of copy was taken to the printers early on Monday morning and all material was in the hands of the printers by Thursday, 18th May. The volume thus prepared was reproduced by photo-litho printing and published on 7th June, some six weeks after the first reports began to arrive in Titchfield. Valuable co-operation was received in achieving that date, from the printers at the Admiralty's Hydrographic Supplies Establishment, at Taunton.

The experience of producing the Preliminary Report in the manner described above suggests that, for the future, it may be advisable to have reports from enumerators checked by the census officers before transmission to the processing office; many of the reports from enumerators contained errors which could have been corrected by census officers. The delay caused in this way may well be less than the delay resulting from the resolution of the many queries that arise.

Receipt of schedules

Despatch of schedules to Titchfield was phased over the period May to July, 1961 but those from about 50 districts were received after that date. Full liaison was maintained with British Railways and more particularly with the agent at Fareham station. Goods traffic was not normally handled at Fareham but special arrangements were made by British Railways because of its proximity to Titchfield. The boxes of schedule volumes were delivered by railway van and were off-loaded and checked direct into the schedule store.

Early deliveries of schedules were moved straight to the sections for revision and coding. Once the sections had sufficient work, the volumes were stacked in the reception bay where they were sorted and put into racks. The schedule binders with uniform-sized hard spines made the task of stencilling identifying particulars on to them easier than the similar operation in 1951. The reception, stencilling and racking of the volumes was spread over a period of 16 weeks and occupied a staff of 14 messengers and paper keepers. 72,000 volumes were handled in this way with a total weight of about 200 tons. They were housed in wooden racking measuring 15,200 feet overall.

The type of binders used for schedules was better than that used in 1951, but even so there were faults. Hundreds of binders were scrapped by the reception staff because the springs holding the split metal securing posts within the binders had broken. There was still the tendency, experienced in 1951, for the first few schedules to become torn from their binders.

Processing the schedules and enumeration books

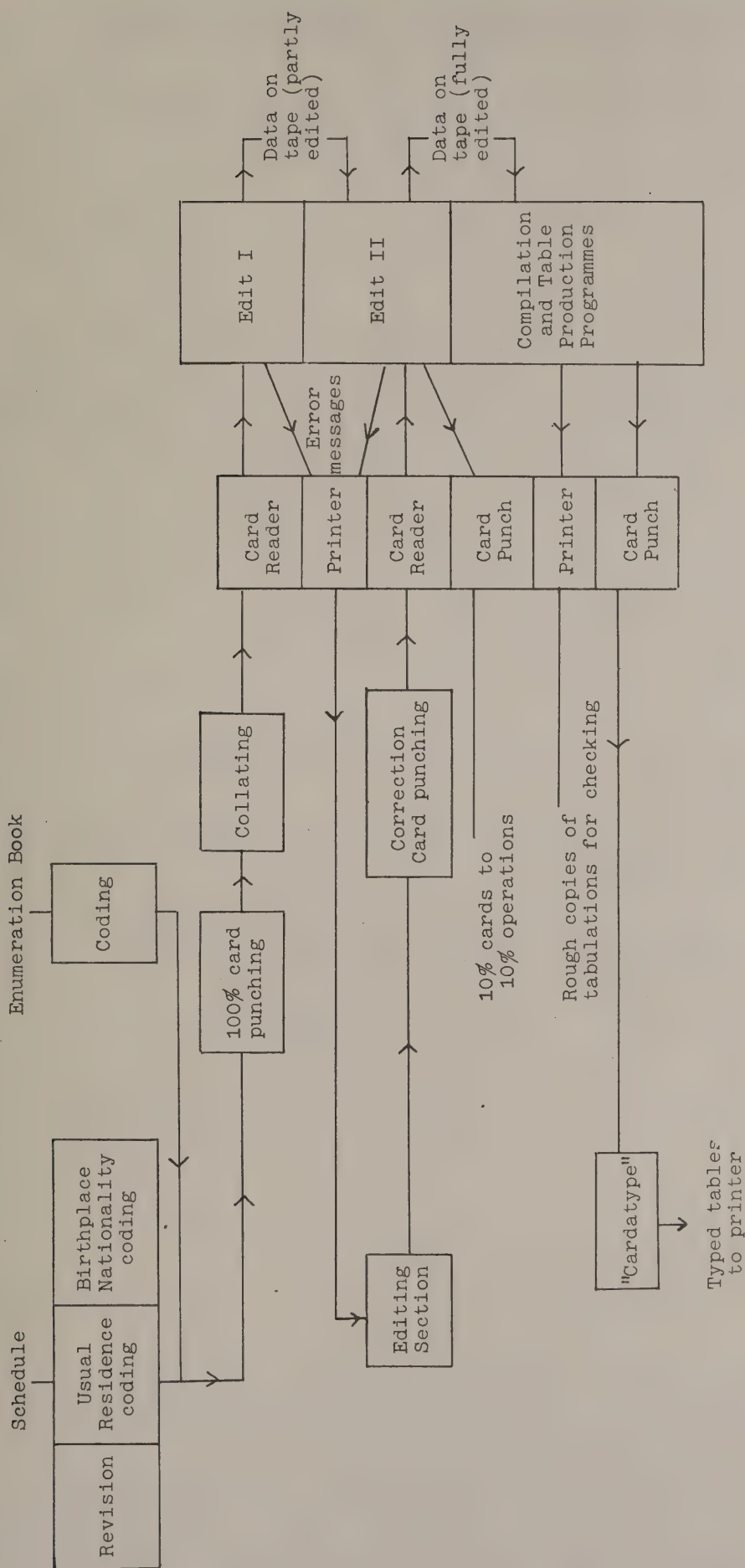
(a) General

The introduction of sampling at the enumeration stage yielded information about some topics on a ten per cent basis only. The aim in processing was to produce results first from the 100 per cent information and later from the 10 per cent data. There follows an account of the various stages through which information was converted to figures, figures to punched cards, and cards to results; those stages are illustrated diagrammatically on page 29.

(b) Schedule revision

This process was designed to provide a general check of the schedules and to insert certain minor codes. The revising clerk was provided with detailed instructions as to his duties of which the more important were:

- (1) To decide for each schedule whether it related to a private or non-private household. Where a private household schedule had been issued for premises in which there were five or more boarders, foster children, etc., that household was treated as non-private.
- (11) To code non-private households to one of 20 classes into which those households were to be divided and for certain establishments, to code each person in them to one of 6 groups of inmate, or guest.
- (111) To code dates of termination of marriage entered in Column H (11) of the schedules.



PROCESSING FLOW CHART

FOR 100 PER CENT INFORMATION

- (iv) To prepare the schedules for punching by supplying codes for omissions and reducing the entries to standard form where the schedule was badly completed.

Replies to some of the questions proved particularly troublesome during this revision work. For example, the panel on the schedule designed to indicate whether a household in a shared dwelling was sharing a stove and sink was completed haphazardly. In a few enumeration districts the panel was completed for every schedule whether or not the dwelling was shared.

A staff of 58 revisers and 3 supervisors were employed on this work and with some assistance from other sections over a short period, completed the revision in just over 12 months. By the fourteenth week of their training period, staff were averaging 580 population per hour and towards the end of the work, speeds of 625 per hour were being maintained.

Coding enumeration record books - The enumerator was required to list all the buildings, dwellings and households as he made his initial round of the enumeration district to deliver schedules. It follows that the subsequent numbering of completed schedules should, in the main, show the number 1 for the first household in the record and continue in sequence through the book. The coder was required to check that numbering sequence and that, generally, the enumerator had appeared to understand his instructions.

Coding action was required to indicate the following:

- (a) buildings containing one dwelling and non-residential or institutional accommodation;
- (b) buildings containing more than one dwelling;
- (c) dwellings containing more than one household;
- (d) household spaces without an occupier or with the occupier absent.

The usual combination of one building containing one dwelling and one household required no coding action. Types of habitation that were separately coded were (i) institutional premises or ships (ii) caravans (iii) houseboats and (iv) miscellaneous structures such as chalets, huts, tents, etc.

Action was also taken by coders to round to whole numbers any fractions of rooms recorded in shared dwellings; this action did not affect the overall total of rooms in any one dwelling.

It was during the coding of record books that the quality of the enumerators could be gauged from the manner in which the books were completed. A source of considerable trouble was the sequence in which parts of buildings were entered. All parts should have been grouped together in the record, instead entries of parts of the same buildings appeared scattered through the enumeration book. Invariably such books had to be re-written with consequent re-numbering of schedules, to bring the parts together. Some 4,000 hours were spent by coding staff on this work. The fact that many enumerators had failed to understand the instructions about shared dwellings became apparent from this coding work. Special action was needed to establish the one-room households that were sharing dwellings by reference to the entries about amenities recorded on the schedules; in many cases there was misleading evidence in the enumerator's record. Further inconsistencies were uncovered during the editing procedures described on pages 31 and 32.

The work as a whole, was completed in just over 12 months by a staff of 1 executive officer and 6 clerical officers.

(c) Birthplace and nationality coding

The schedule questions required statements of the country of birth, and for people not born in the United Kingdom, citizenship or nationality. For those claiming citizenship of the United Kingdom and Colonies, the mode of acquisition of that citizenship was also required. The staff dealing with the answers to those questions were given instructions enabling them to assign codes of up to four digits to any of the answers supplied.

A large bulk of the coding was eliminated by the instruction to leave uncoded all entries showing "England" as the country of birth. Most other entries relating to the country of birth were assigned a code of two digits, drawn from a comprehensive listing of countries with their codes. Provision was made in that listing for coding indefinite answers such as "Ireland" or

"Great Britain". From the same list, identical two-digit codes could be assigned for nationality in the case of most Commonwealth and foreign countries. For the countries of the United Kingdom and Colonies, a second list provided for coding the statements of the mode of acquisition of Commonwealth citizenship. In that list too, provision was made for indefinite or incomplete statements.

This work was relatively simple and was completed by an average of 19 clerical assistants over the period June, 1961 to June, 1962. Coders rapidly acquired speed and reached an average of 1,500 population per hour after 4 weeks experience; longer experience produced outputs averaging 2,500 per hour.

(d) Area coding

This process was the counterpart of that carried out locally by census officers and described on page 24. All addresses in columns C "Usual Residence", N "Migration" and R(c) "Workplace" of the schedules, which had not been coded locally, were coded by clerical staff at Titchfield.

To assist them, large coding boards were provided on which were recorded the four-figure codes for all local authority areas in England and Wales, listed in alphabetical order. An "Index of Place Names" was also provided in which, besides local authority names, every known town, village and locality was recorded in alphabetical order with the appropriate code. Pre-coded lists of all premises in which large numbers of people were employed were also provided to assist the coding of addresses of places of work. Street lists, directories and maps were used by a special query section to resolve difficulties with certain addresses. General pitfalls were the addresses used for postal purposes where a town in one local authority area was shown in addition to a village or small town in another area. For addresses outside England and Wales, lists of countries, or groups of countries were provided with appropriate codes.

In addition to area coding, staff dealing with the answers in column "N" were required to code the duration of stay at the address of residence where that had not changed in the year before the census. At the outset, this coding and area coding for both migration and workplace was carried out by marking one side of punched cards, but this system was later abandoned in favour of coding directly on the schedules. (See also page 32).

Although it was envisaged in 1951 that central area coding would present great practical difficulties, it was found that division of coding between local and central officers worked well. Something like 3 per cent of the addresses quoted on the schedules were too indefinite for coding by the general staff and had to be resolved by the query section. The local officers coded something like three to four-fifths of the addresses and where checks were possible, it was found that their work was very satisfactory. Only in the London postal area were there a number of errors due to the diversity of workplaces and difficult local boundaries, but even there the overall percentage error was only in the region of 5 per cent.

The work of the people engaged in this coding produced the information necessary to

- (a) establish the resident (as distinct from the enumerated) population in local authority areas, New Towns and central areas of conurbations,
- (b) show the degree and direction of population migration within the country, and
- (c) indicate the movement from one local authority to another involved in the journey to work.

An average of 16 clerical staff were employed on this work over the period June 1961 to July 1962.

(e) Editing

A section was set up in August 1961 consisting of 2 executive officers and 17 clerical officers, to deal with the output of the computer Edit I and Edit II programmes (see page 39). The functions of the section were to refer to the original schedules to ascertain the correct data for those items queried by the computer programme and to specify the details of the correction cards to be punched in order to modify the computer data.

Data queried by but acceptable to the computer which were confirmed on inspection of the schedule did not require the punching of a correction card. In all some 1,500,000 queries were raised by the computer and 500,000 correction cards punched.

The staff in the section was increased to 3 executive officers and 26 clerical officers in August 1962 and remained at this figure until the end of March, 1963 when it was steadily reduced to the end of editing in June, 1963.

Staff engaged on this work required a thorough knowledge of all the other census processes and considerable judgement was necessary in dealing with incompatible data on the schedule. Some difficulty was found in supplying sufficient numbers of suitable staff in the face of capacity demands and a fair proportion of the staff was rejected during training.

The 10 per cent data were similarly edited. This work which was commenced in early 1962 was largely concentrated into the period January to November, 1963 and employed 3 executive officers, 16 clerical officers and 3 clerical assistants.

The staff engaged in this work required a thorough knowledge of the economic activity codes. The section was staffed largely by officers moved from economic activity coding shortly before the latter was completed.

Coding of 10 per cent information - The subjects for which coding action was needed were (a) scientific qualifications (b) economic activity (c) workplace (d) household composition and (e) migration. The instructions for determining the codes to be applied are dealt with separately for each of those subjects; this section deals with the methods used for transferring the codes to punched cards.

After the editing procedure for the 100 per cent information had been completed, the computer duplicated that information for each person who was included in the 10 per cent sample on to special cards (reproduced on page 36). The next stage was to punch the 10 per cent information for those same people into the special cards. The first step was to pass the cards through a machine, the I.B.M. 519, which printed on to the left hand edge of the cards the main identifying particulars for each person - sex, age, schedule number and sequence number on the schedule. This enabled staff in the coding sections who were to handle the cards next, to identify the appropriate card for a person included in the sample and mark on the reverse side of that card the various 10 per cent codes that applied. The marked cards were sensed in the I.B.M. 519 where holes were automatically punched in the appropriate positions.

At an early stage in planning the possibility that the 10 per cent items could be coded on the schedules and punched by punch operators into the cards pre-punched with the 100 per cent information had been rejected owing to the difficulty of ensuring that the data for the correct person was punched into the card. It became apparent in February 1962 that the irregular supply of 10 per cent cards from the computer was leading to the coding section working at a very low efficiency. Because of this, consideration of 10 per cent coding on the schedules was re-opened and a satisfactory method was devised of linking cards and schedule entries.

Experience had shown that the marking of cards was a very slow process owing to the care needed to identify the card and make marks which would be accepted by the reproducing machine. The increased coding speeds found possible when coding schedules rather than marking cards, more than offset the increased costs arising from the additional stage in the work.

In order to ensure that the pack of cards given to the puncher was complete and in sequence, the coding of household composition was done after the receipt of the cards from the computer and the coder was responsible for checking the pack. He also initiated cards for absent members of households.

(f) Economic activity

Preparation of classifications

- (i) Industry - The classification of industries used in the Census was based on the Standard Industrial Classification produced by the Central Statistical Office. In 1956 the Central Statistical Office initiated a review of the classification used by the General Register Office and other Departments since 1948 and a committee on which the General Register Office was represented produced a revised version in 1958 which was used for the 1961 Census.
- (ii) Occupations - It was decided in 1957 that the classification of occupations used in 1951 had proved too detailed for the quality of information available and a working party within the General Register Office was instructed to produce the

outline of a completely revised classification of fewer headings bearing in mind the needs of medical and civil statistics and the recommendations contained in the International Standard Classification of Occupations.

The resulting classification was submitted for comments to interested Government Departments and the Medical Research Council and various changes were made in the light of the comments received.

From that point until January 1959 efforts were concentrated on allocating the occupational terms from the 1951 index and those discovered since, to the various rubrics of the classification, and on preparing a provisional index for the coding of death registrations for January 1959 onwards. Occupations recorded at death registrations are coded only for the 5 years about the census to provide information for the occupational mortality analysis.

During this period and subsequently officers of the General Register Office had consulted various concerns with large numbers of employees with the help of the Ministry of Labour, and obtained invaluable information on occupational nomenclature and industrial organisation.

The provisional index was given a final revision and published together with a description of the classification as "Classification of Occupations 1960" in November 1960.

Coding - Contrary to 1951 practice and partially at least to minimise card handling for mark sensing it was decided to code occupation, industry, economic position, employment status and hours worked as a single operation. It is doubtful whether this was a successful change.

Training of the six executive officers to control this work commenced on 1st May and continued until 23rd June. The training consisted of an analysis of the classification with coding exercises at each stage. 150 dummy schedules incorporating a large number of the more difficult coding situations had been constructed and these were used in the final stages of training in the absence of live schedules. Each supervisor made one half-day visit to a local industrial establishment.

Two intakes of coders one of 24 on 26th June and one of 20 on 17th July were given similar, though less intensive, training.

After a short period on mark sensing all the staff was concentrated on preparing the special cards for the Scientific Qualification enquiry, the results of which were required urgently by the committee which was studying scientific manpower in this country.

Economic activity coding was continued early in 1962 but progress was slow, due mainly to the absence of cards from the computer, and commencing in February the staff turned over to coding on the schedules and continued in this way until the end of March 1963.

As on previous occasions the coding of Industry was undertaken with the aid of lists of employers. In 1961 these lists contained the names, addresses, industry and area codes for all establishments employing 25 or more persons. They were prepared by a staff of an executive officer and 6 clerical officers starting in January 1961 from some 300,000 forms supplied by the Ministry of Labour and covering all establishments with 5 or more employees. These forms were later constituted into a single alphabetical index for reference purposes for firms not listed for the coders and for which inadequate information was given on the schedule.

Owing possibly to the size of the lists of employers (that for Birmingham C.B. covered 143 pages and embraced 2,792 firms) and the higher standards of accuracy imposed as a result of the 10 per cent sample, overall coding speeds were very low, the average rate rising to only 155 entries per hour. Overall 67 per cent of the entries were checked.

(g) Scientific qualifications

The coding of scientific qualifications was originally planned as part of the general procedure for coding the 10 per cent information, but the urgent need

for the results necessitated the coding of these qualifications well in advance of the other coding procedure.

Coding began in the third week in August 1961, and to ensure early completion, the whole of the staff allocated to the coding of economic activity, 6 executive officers and 40 clerical officers, were transferred to this work. However, to avoid repeated handling of the 1,400 volumes of institution schedules, economic activity in these schedules was coded at the same time as scientific qualifications. These 1,400 volumes contained information about 1,000 people with qualifications and 50,000 with economic activities that required coding.

Because this work was being carried out ahead of other procedures it was necessary to create mark-sense cards (see page 27) for each person who had recognised scientific qualifications; for the 10 per cent coding operations which were carried out later such cards were produced automatically by the computer (see page 39). The 100 per cent information marked on the created cards was restricted to details of sex, age, marital condition, country of birth and citizenship. The 10 per cent information relating to economic activity was also coded and marked on the cards.

The coding of the qualifications fell into two parts:

- (i) the evaluation of the type of qualification (i.e. university degree, technological associateship or diploma, membership of professional institution) in order to include only those of sufficiently high standard; and
- (ii) the separation by subjects in which the qualification was held, so that only those in the desired range of science and technology were included. To assist in this work guiding principles and lists of the most likely terms had been prepared by the Office of the Minister of Science.

The first week of coding produced a disturbing number of cards which could not be resolved from the lists without prior reference to the Office of the Minister of Science. These queries fell into five groups:-

- (i) qualifications not included in the lists,
- (ii) qualifications only partly covered by the lists,
- (iii) organisations, or letters indicating membership of organisations, not listed,
- (iv) subjects not covered or doubtful as to the group within which they should be included, and
- (v) foreign (i.e. non-Commonwealth) qualifications.

Most of these queries were resolved by the middle of September but the queries on foreign qualifications particularly were not settled till some time after the main bulk of the work had been completed in late October 1961. A total of 10,620 hours by clerical staff and 1,942 hours by executive officers were needed to complete the work.

Processing of the marked cards was carried out by means of the mark-sense reproducer (see page 27) and a conventional card sorting, counting and printing machine, the I.B.M. 101, which was being used for other statistical work in Titchfield. The figures in the results sheets from this machine were typed manually, using the cardtype or electric typewriters, on to prepared tables format. These were printed by photo-lithography to provide the report published on Scientific and Technological Qualifications.

(h) Household composition

The analysis of "de jure" households on a 10 per cent basis to provide the tables of household composition was made by the computer using the information coded by the household composition coders. These coders were instructed to identify each person within each household by a code which identified whether the person was in a family or not and, if so, which family and also the relationship of the person (or family) to the head of the household.

Visitors to the household were identified by a separate code and additional and identifiable punch cards were added to the 10 per cent card pack for each person returned in Part III of the schedule as an absent person.

The section was also responsible for making the sample analysis of absent

persons for the statistical checks made later and also checking of the 10 per cent cards referred to on page 36.

The work was under the supervision of an executive officer and was carried out by staff averaging 11 clerical officers over a period of about 21 months.

Punching and machine processes

(a) Punching

The introduction of sampling and the processing of cards by computer resulted in the use of several different types of machine cards. Those used for the schedule information specifically are reproduced on page 36. It will be seen that the cards for the 100 per cent information on all types of schedule provided for data concerning up to three persons, but for the maximum use of the card the initial identifying particulars in columns 1 to 10 and the usual residence code in columns 21 to 24 had to be the same; when any one of these details changed a fresh card was begun. By the use of programme cards in the punching machines, common identifying particulars were automatically duplicated and columns which did not apply to a particular person could be skipped by depression of one key.

Simple coding was applied by the punchers for columns 13 (tenure), 14-18 (household arrangements), 26 (sex), 29 (marital conditions) and the dates of marriage in columns 38-43. Where there were figures in the answers (e.g. age, columns 27-28) these were punched directly, in other cases the codes supplied by the various sections were punched in the appropriate columns.

As reported on page 32, the cards for 10 per cent information were originally designed for automatic punching by mark-sense reproduction, but later were punched manually. The cards reached the punchers with the schedule number, sex and age of the person concerned printed on the left hand edge of the card. Also pre-punched into the card was the appropriate 100 per cent information and identifying particulars in columns 34-80. The puncher's job was to match each card with the entry relating to the person on the schedule and punch from the schedule the codes recorded for the information in card columns 5-31.

Enumeration record books - The card used for punching from these books is reproduced on page 37. One card was used for each page of the enumeration book, and two columns only for each entry on a page beginning with columns 21 and 22 of the card. Having punched the identifying particulars in columns 1-10, the puncher punched the unit of the schedule number followed by the dwelling classification in the next column. She also interpreted into simple numeric code various symbols inserted by the coder to indicate sharing of buildings and dwellings and vacant and untenanted dwellings.

Cards for computer control - Additional machine cards required for computer control were ward/parish cards and correction cards. Ward/parish cards were punched from sheets prepared by the intercensal section. The sheets provided historical information for the eventual production of results and also automatic production by the computer of "leader" cards to assist further in computer control. The ward/parish cards were "alpha" punched so that machines were able to print out the names of the areas involved.

Correction cards for use in conjunction with the editing procedures were also punched (see pages 31 and 37).

Punching progress and rates - The speed at which the main punching of the 100 per cent information was done exceeded expectations. A staff of one executive officer, 10 supervisors and 35 punchers began this work in May, 1961, increasing to 100 punchers by August, 1961. The executive officer attended a course of instruction on the machines with the machine company and visited a large number of punching installations to study their methods. With this knowledge she was able to train her supervisors and through them the punchers. Speeds of punching built up fairly rapidly and when proficiency allowances were introduced in July 1961, the bulk of the staff achieved and surpassed the required rate of 7,500 key depressions per hour.

Punching rates were maintained so well that staff leaving or transferring from the section were not replaced. 20 punchers began work on the ten per cent information in March 1962. By the time the one hundred per cent punching was completed in August the total number of punchers had dropped to 60 and 25 of these were transferred to the Statistical Branch of the General Register Office in Titchfield. For the 100 per cent punching, staff were reaching rates of 15,000 key depressions per hour and towards the end were competing with each other to hold the record rate of production.

100 per cent information

1824 UNITED KINGDOM LIMITED

866 - O 3383

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[illegible]

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PERSON'S CARD		QUALIFICATION		ECON.	INDUSTRY		WORKPLACE				OCCUPATION		STATUS		HOURS		LAST FULL TIME		OCCUPATION	MIGRATION	
TYPE	SUBJECT	POSN.																			
C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0	C0
C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1	C1
C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2	C2
C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3	C3
C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4	C4
C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5	C5
C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6	C6
C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7	C7
C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8	C8
C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9	C9

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27

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Enumeration books

[illegible]

Wards and parishes

[illegible]

Leader cards (for computer control)

LEADER NUMBER	REGN DIST.	C D	ED NO	OE D T SED WHOLE / SPLIT	NUMBER OF SCHEDULES IN ED	PRELIM POPULATION	ADMIN AREA CODE	ENGLISH / WELSH	CARD TYPE
00000	0000	0000	0000	000000	000000	000000	00000	00000	0
1 2 3 4	5 6 7 8 9 10	11 12	13 14 15 16	17 18 19 20	21 22 23 24 25	26 27 28 29 30	31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79	80	1
11111	11111	11111	11111	111111	111111	111111	111111	111111	2
22222	22222	22222	22222	222222	222222	222222	222222	222222	3
33333	33333	33333	33333	333333	333333	333333	333333	333333	4
44444	44444	44444	44444	444444	444444	444444	444444	444444	5
55555	55555	55555	55555	555555	555555	555555	555555	555555	6
66666	66666	66666	66666	666666	666666	666666	666666	666666	7
77777	77777	77777	77777	777777	777777	777777	777777	777777	8
88888	88888	88888	88888	888888	888888	888888	888888	888888	9
99999	99999	99999	99999	999999	999999	999999	999999	999999	0
1 2 3 4	5 6 7 8 9 10	11 12	13 14 15 16 17 18 19 20	21 22 23 24 25 26 27 28 29 30	31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79	80			

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The standard of accuracy required was under 3 per cent of cards with errors. All punching was fully verified except the punching of the 100 per cent information for which only one schedule in ten was verified after the puncher became proficient.

(b) Reproducing, sorting and collating

These processes involved the operation of three types of machine. The various functions of the reproducer (the I.B.M. 519) have been described on pages 27 and 32. The sorter had no specific process to perform but it was necessary for re-grouping cards which had become mixed during other processes.

The collator was used for merging the different types of cards for each enumeration district so that the cards could be presented to the computer installation with the schedule numbers running in one continuous sequence thus providing a check that information for every schedule was being supplied. Up to four groups of cards were punched for each enumeration district. There were cards from non-sample schedules (E.90 etc.), from sample schedules (E.10 etc.), from non-private schedules (I, S, NMA) and from enumeration record books. For the first three groups the schedule numbers ran in sequence within each group with the gaps in numbering sequence in one group being completed by the schedule numbers in the other groups. The first schedule numbers punched in the enumeration book cards duplicated the corresponding numbers on the cards punched from the schedules. During these processes the machine was able to detect simple errors in punching such as incorrect schedule numbers and punching in the wrong fields. A leader card, to provide identification, was supplied by the computer section and placed in front of the merged cards for each enumeration district.

The collating process was relatively slow and it became necessary in December, 1961 to obtain a second machine in order to ensure a sufficient supply of cards to the computer. A maximum staff of 4 clerical officers, 4 machine operators and a clerical assistant were employed on all the processes of reproducing, sorting and collating. They were under the supervision of an executive officer who had received special training in the operation of the machines and particularly in wiring the control panels which were used to determine the functions performed by the reproducer and collators. The clerical staff were engaged in assembling the cards for the machines and in settling queries which were raised during the running of the machines. The staff handled the cards for Scotland in addition to those for England and Wales. All the collating was completed by October, 1962 and the end printing and reproducing by February, 1963.

(c) Card controlled typewriter ("Cardatype")

The section operating the "Cardatype" machines dealt with the conversion of data emerging from the computer into tables of results which could be reproduced by photo-litho printing. Two installations were used, each consisting of a bank of three typewriters electrically operated from punched cards. The typewriters were fitted with varying combinations of type founts to provide italic, bold and normal type.

The computer was programmed to produce, in the form of punched cards, the statistics required for each table in the reports to be published. The "Cardatype" installation was controlled by panels specially wired for each table of results. One executive officer attended a course of instruction by the manufacturers in the involved wiring system and machine operation. He, in turn, was able to instruct other executive officers in this specialised work.

The section had four main jobs to perform, - specification, wiring, operating, and patching. Specification involved the use of varying symbols and techniques to instruct programmers as to the lay-out of the out-put cards to be produced by the computer so that the desired lay-out of the tables of results would be achieved. Having specified the tables in this way, the executive officers proceeded to wire the control panels of the cardatype to match the specifications.

Machine operators were able to perform the relatively simple job of feeding the punched cards into the machines and ensuring that the typewriters operated satisfactorily. Some of the tables required up to three punched cards for one line of figures. To guard against any one of the cards having become displaced, an automatic arithmetic check was built in to the control. So long as cards were being fed in the correct order one of the typewriters produced a "zero" balance for each line of figures. It was part of the operator's task to check that this occurred during running of the machine.

The three typewriters produced identical figures and words but in varying type founts. It was the job of the patchers (clerical officers) to build up a master copy by selecting and cutting material in the founts required from one copy and patching it into the master. To assist in this delicate work, glass-topped illuminated tables were provided. When patching was complete the tables of results were in a form which could be directly photographed for production of the published volumes.

Because of delays in production of cards by the computer, it was not until November, 1962 that the section could make a positive start on production of tables of results. When in full production the section employed a higher executive officer, four executive and four clerical officers and two senior machine operators. A typist was assigned to the section to prepare the commentary material on a manually operated electrical typewriter.

The production of the county series of reports was completed by February, 1964 and the national reports by December, 1966.

Computer processing

(a) General plan

Once programmes (instructions to the computer) had been written the scheme was first to convert punched cards to magnetic tape to form the input data for the machine. Those data were edited within the computer to ensure that each item for a particular person was compatible with other items. The computer was programmed to look for such incompatibilities and queries were raised automatically. When the input data was fully edited compilation programmes were used to extract sets of statistics from the data. These statistics were then arranged by table production programmes, the output from which was converted back to punched cards to form the input material for producing typed copies of the tables on the cardatype machines. (See page 38).

(b) Editing

Two edit programmes were written for both the 100 per cent data and the 10 per cent data. The first programme was designed to check the validity of the codes (e.g. no marriage later than April, 1961) and ensure that separate codes were compatible with each other (e.g. no married person under the age of 16). Any faults of this kind which were found by the computer were printed out for verification and, if necessary, correction by the editing staff at Titchfield (see pages 31 and 32). The computer also produced messages for any situation which was improbable or occurred rarely (e.g. persons over the age of 95 years) so that the information could be verified.

This first edit produced a partially edited data output tape containing all the original data with minor modifications. Information from correction cards produced at Titchfield was fed into the computer and the second edit programme run. This had the effect of substituting the correct record for an incorrect record held on the partly edited tape, at the same time checking as before that the new data were compatible and valid. This process was repeated until a fully edited output tape was obtained. From the output tape a new set of punched cards was produced, which showed the 100 per cent information for each person in the 10 per cent sample. At Titchfield the cards were completed by punching the codes applicable for the 10 per cent information (see page 34). Those cards were subjected to a second series of edits similar to those described above, this time to discover faults in the 10 per cent information. These processes were complicated by the need to check the compatibility of occupation with industry.

Editing was carried out on convenient blocks of population of about two million persons. When the editing of a whole block was completed a sorting programme arranged the sets of records for enumeration districts into the order needed for further processing.

(c) Compilation

The object of compilation was to convert the data on the fully edited tapes into statistics. The number of counting cells set up in the computer for this purpose ranged from 850 to over 5,000. Some 20 compilation programmes were written to instruct the computer in these operations. When each run was completed the output tape provided a mass of statistical information that could be drawn on to provide tabulations.

During the running of the first compilation programme certain characteristics of the 10 per cent sample were compared with the population as a whole. This operation helped to check the validity of the sampling procedure.

(d) Table production

The next stage was to convert the output from the compilation programmes into figures required for the various cells which were to appear in the published tables. Each table required a separate programme, some 250 such programmes being produced. The output from these programmes consisted of a further batch of tapes which were converted into sets of punched cards for each table. Careful specification was needed for these programmes to ensure that the cells for the tables appeared in the correct positions for publication and that requisite totals and rates were produced. The output also showed the names of areas (in punched form) to which the figures related and other information to enable the cells to be identified. The punched cards produced in this way were passed to Titchfield where the typed copies were produced.

(e) Staffing

The job of writing the programmes for the computer was a most complex task. Staff were chosen for this work after success in an aptitude test and a course of instruction which followed. A period of six or more months training was necessary. With computer time at a premium the staff could rarely work normal regular hours and in the early stages night work was often performed.

Initially only programming staff were employed at the computer centre but later the many routine jobs were delegated to other executive and clerical staff. Such tasks included management of the tape library and negotiations with the R.A.P.C. for time on the computers.

Publications

The tables in which the census results are embodied were fully discussed in draft with the Departments principally concerned. Full consultation was also maintained with Scotland in order to obtain the maximum degree of comparability in the main census results throughout Great Britain. Northern Ireland was kept fully informed on tabulation proposals with the same objective of general comparability. The census authorities in the Isle of Man and the Channel Islands requested the Registrar General to produce their Census Reports, which so far as relevant were on similar lines to those for Great Britain, on an agency basis.

(a) *The Census 1961, England and Wales, Preliminary Report*, published in June, 1961, contained a general note on the taking of the census, some brief preliminary statistical commentary and provisional figures of the population, private households and private dwellings for all local authority areas (counties, boroughs, urban and rural districts) regions, conurbations and New Towns.

(b) *The County Reports* comprised the statistics of local interest which were collected on a 100 per cent basis. The subjects covered are population and acreages of local government areas; distribution of the local populations according to sex, age, marital condition, birthplace, citizenship and nationality, private households and their size distribution, the buildings, dwellings, and rooms in which they live, the tenure of their accommodation and certain household arrangements possessed by them; institutions of different type housing various categories of non-private population. This series does not contain any information which was collected on a 10 per cent sample basis and therefore does not include distributions of the population by terminal education age or by social class as were included in the corresponding series of the 1951 Census. The series was published between June, 1963 and April, 1964.

(c) *The Report on Scientific and Technological Qualifications* gave statistics of persons with those qualifications and the occupations and industries in which they work. This Report was published in October, 1962 on a 10 per cent sample basis and related to Great Britain.

(d) *The Report on the Welsh Speaking Population* gave statistics derived from the question about speaking the Welsh language addressed to those enumerated in Wales and Monmouthshire. This Report was published in September, 1962.

(e) *The Usual Residence Tables*, published in October, 1964, compared the enumerated census population in local areas with the population usually resident in those areas and also gave the numbers enumerated who were usually resident outside England and Wales classified by country of usual residence and by age.

(f) *The Age, Marital Condition and General Tables*, published in November, 1965, mainly comprised summaries of the information given in the County Reports on local population, age and marital condition, with the various categories of non-private population.

(g) The *Birthplace and Nationality Tables* mainly comprised summaries of the information given in the County Reports on birthplace, citizenship and nationality. This Report was published in September, 1964.

(h) The *Housing and Household Composition Tables* included summaries of the information on housing and private households given in the County Reports, together with more extensive tabulations for England and Wales. The Housing Tables were published in three volumes between January and March, 1965 and contained tables of buildings, dwellings and households, tables of tenure and household arrangements and summary housing indices. The Household Composition Tables, which were published in December, 1966 provided figures on the composition and the social and economic characteristics of households and families and the types of person included in these groups on a 10 per cent sample basis.

(i) The *Migration Tables* gave statistics of the numbers and characteristics of people who changed their usual residence in the year before Census Day; details of their age, marital condition, socio-economic group, occupation and industry were given together with similar information about the remainder of the population classified by the length of time they have lived at their present usual residence. Numbers of people moving were also given for local areas with some details for larger areas. These tables were on a 10 per cent sample basis. The Report was published in September, 1966.

(j) The *Workplace Tables* showed the population resident in one area and working in another, the units of area being boroughs, urban and rural districts and New Towns. This Report was on a 10 per cent sample basis. It was published in June, 1966.

(k) The *Occupation Tables*, published in January, 1966, gave statistics of the occupied population based on their personal occupation (classified according to the Classification of Occupations, 1960) including statistics for usually resident populations of the larger areas, and with reference to age, marital condition, employment status (manager, employer, etc.) and socio-economic group. These tables were on a 10 per cent sample basis.

(l) The *Industry Tables* gave statistics of the occupied population based on the branch of economic activity to which their occupations contribute with identification of employment status categories, age-groups and married women, the branch of economic activity units being those of the Standard Industrial Classification. Statistics of local populations were based on the area containing the place of work. These tables also included an analysis of each important industry or group of industries showing the principal occupations which contribute to it. These tables were on a 10 per cent sample basis. The Report was published in June, 1966.

(m) The *Education Tables* gave figures relating to the terminal education age of persons resident in local areas and, for England and Wales and the regions and conurbations, classifications by age and by occupation. These tables were on a 10 per cent sample basis. The Report was published in February, 1966.

(n) The *Fertility Tables*, published in October, 1966, gave statistics derived from the questions on date of marriage and number of children which were put to women who had ever been married.

(o) The *Commonwealth Immigrant Tables* gave statistics about the demographic, social and economic characteristics of people enumerated in the six conurbations who had been born in the West Indies, India, Pakistan, Africa (excluding the Union of South Africa), Malta and Cyprus. These tables were on a 10 per cent sample basis. The Report was published in September, 1965.

(p) The *Greater London Tables* were published in September, 1966 following the establishment of a Greater London Council area and the division of this area into the City of London and 32 London Boroughs.

(q) The *Great Britain Tables*, published in December, 1966 contained statistics on population, birthplace and nationality, housing, household composition, migration, occupation, industry, education and fertility for Great Britain as a whole.

(r) The *Index of Place Names*, published in November, 1965 gave the location and the census population of places with defined boundaries.

(s) *County leaflets*. These contained tables giving the population by sex and the total numbers of households and dwellings for each of the counties in turn. The figures were published in advance of the main series of County Reports over the period December, 1962 to October, 1963.

(t) *National leaflets.* These were published in advance of the main volumes and contained the basic national and regional tables on household composition, migration, occupation and industry.

Unpublished information

The information published in the Census reports is no more than a selection of the potential total. The tabulations selected as significant could almost always have been designed to give greater detail, either by introducing smaller units of area or additional categories or age-groups. Special areas such as large homogeneous housing estates not delimited by local government boundaries, might be the subject of detailed social or medical investigations.

In July, 1961 a circular was sent to local authorities, universities, research organisations, Government departments, and other interested bodies advising them of additional tabulations that could be obtained. Largely, these were tabulations in something of the detail accorded to larger areas and relating to wards, civil parishes and enumeration districts. Considerable use was made of these facilities. Special programmes were prepared for the computer enabling the required statistics to be produced easily and economically.

To meet the needs for unpublished information there is power under Section 4(2) of the Census Act, 1920, to satisfy, on repayment of cost, any reasonable demand for statistical information from the Census which is not covered by the standard census programme. The extent to which this provision has been used is indicated by the payment to the Department of £32,000 up to the end of the financial year 1966/67.

Accommodation and staffing

(a) Location and accommodation of the Census staff

The general planning and administrative control of the Census was conducted from Somerset House, London at the Headquarters of the General Register Office.

Existing accommodation at the Victoria Hotel, Southport, (where a large branch of the Department is located), was used for the planning of enumeration districts. The small rooms in the hotel were unsuited for the handling of the large unwieldy maps used for the planning; at times planning was carried out on the floors of the rooms.

The main accommodation of the Census Office was in a former Royal Air Force camp at Titchfield, some four miles from Fareham, Hampshire, and about 75 miles from London. Although, outwardly, the wooden "spider" blocks had an uninviting appearance, the various structures on the site proved ideal for the processing of the Census information. With all accommodation at ground level movement of schedule volumes was facilitated. Clerical staff were housed in 14 interconnected huts, which had been living quarters for service personnel, and which had been well adapted for office work. The corridors, unfortunately, were too narrow for easy mobility of the trolleys for carrying the schedule volumes from one section to another.

The bulk of the punching staff were in one large room (the former N.A.A.F.I. canteen) which had been specially sound-proofed and the remainder were in a somewhat smaller room leading from it. These conditions greatly assisted control of the punching staff and contributed to the high outputs attained. Other machine sections were conveniently sited adjacent to the punching rooms.

An existing brick-built building proved ideal for storage of schedules. It was directly connected to the huts through a specially constructed covered way which assisted in the movement of the volumes. The former airmen's mess provided ample facilities both for a staff canteen and social club room.

The computer installation was some 22 miles from Titchfield, at Worthy Down, near Winchester. For the most part, makeshift office accommodation was provided for the programming and clerical staff, the installation being shared with the Royal Army Pay Corps. Staff were working within the bounds of a military camp and shared the amenities provided for other civilian and service personnel.

The separation of the two units concerned with processing the Census information was inconvenient, but this was offset to some extent by the maintenance of a daily van service between the two sites.

(b) Staff

The planning staff in London reached a maximum of 24 persons early in November, 1960 after which transfers of staff to Titchfield and Worthy Down began

to take effect. Much of the executive staff were employed on programming duties for the computer. The work connected with the classification of occupations and industries employed a small section of 2 executive and 3 clerical staff. The general planning staff was augmented in the early part of 1961 to manage the distribution of schedules and other supplies, but apart from this period, 3 executive and 5 clerical staff were employed on this work.

In Southport a maximum staff of 5 executive officers and 52 clerical officers and assistants were engaged on the planning of enumeration districts. This staff began to disband in February, 1961, some of the officers transferring to Titchfield.

For the processing work at Titchfield, a maximum staff of 337 was reached in December, 1961. A Chief Executive Officer was in overall control of both Titchfield and Worthy Down. At Titchfield there were also two senior executives, 30 other executive staff and the remainder clerical and machine staff. There was little difficulty in obtaining the majority of the clerical and machine staff of a reasonable standard, from local sources.

Most of the staff at Worthy Down had received specialised training in programming duties for the computer. It was necessary to employ 5 higher executive and 13 executive officers and 11 other grades on this work. The Census work on the computer was supervised by a senior executive officer.

PART II - STATISTICAL ASSESSMENT

Introduction

A census, or any other statistical enquiry, is an attempt to summarise the infinite variety of characteristics found in people into a relatively small number of groups. For a numerical characteristic such as age this is relatively easy, for a characteristic such as occupation it is difficult. It is inevitable that much detailed information is lost in numerical presentation and it is therefore desirable that the groups which are identified should be meaningful and homogeneous groups which, however imperfectly, represent distinct groups in the population.

The difficulties in the way of achieving this are very considerable. A census questionnaire and its questions are designed by specialists who are aware of the information which is being sought. The forms are completed by millions of individuals for whom the questions will have a variety of meanings. These people do not know the purpose of census questions: they have only the actual wording of the questions as a guide. Thus they may fail to understand a question and hence fail to respond correctly to it. Even the words used in a census question may mean different things to different people: the same word may have different meanings in different parts of the country.

When a question has been answered, there is no guarantee that the answer will be interpreted by the people processing the census form in exactly the way intended by the respondent. Misunderstanding and mis-interpretation can arise at this stage also. The actual processing of the census can import further modification to the original reply.

So far it has been assumed that within its inevitable limitations, the census has itself been technically wholly satisfactory. This is not usually achieved. Errors are introduced during processing and checking procedures can usually only ensure that such errors are kept within limits which are at a satisfactory average level. A sampling procedure may not work perfectly and even when this is achieved a sample can provide only estimates of the features of the whole population.

All these elements mean that the picture of the population which a census provides may be a distorted one. The overall distortion may not be large but this is not proof against bad errors in certain aspects. A statistical assessment is an attempt to measure the overall accuracy of the census. In particular it aims at warning the users of census figures where serious pitfalls may arise.

The statistical assessment programme for the 1961 Census was much more extensive than in any previous census. A start was made in the 1951 Census when ages as stated on the schedule were compared with birth registration records and occupation and age and marital condition statements were compared with death registration records. Also in the 1951 Census there was an examination of the validity of the one per cent sample and a special check on household amenities. Details of these projects are contained in the *Census 1951 General Report*. The statistical assessment for the 1961 Census has taken these beginnings very much further. One of the aspects of the continuous progress which is being made in census taking is that a quality label is now demanded for census figures. The 1961 Census of England and Wales made a considerable step towards this; the 1966 and later Censuses are expected to go much further.

It will be seen from later chapters that the statistical assessment programme for 1961 was not wholly successful. One example of this was that the post-enumeration survey was not as effective as it might have been. Another unsatisfactory feature was that the bias in the ten per cent sample was not discovered until relatively late in the processing of the census and therefore caused some considerable delay in production. However, these partial failures should be reckoned as part of the price of progress and are in fact the only way in which progress can be made. It should be remembered that some failures are an almost inevitable feature of a situation where such work is being carried out for the first time.

This account of the statistical assessment of the 1961 Census is composed of five chapters. The first chapter on the completeness of the coverage of the census deals first with the form of the post enumeration-survey itself. Thereafter it discusses the degree to which the census is believed to have achieved a complete enumeration of the population. The evidence of the post-enumeration survey itself on this point is equivocal but the consistency of the census population with the series of annual population estimates suggest that for England and Wales as a whole there were not large errors in either. Some doubts

have been cast on the completeness of the enumeration of West Indians; here no really satisfactory evidence is available but on the whole it seems likely that there was some net under-enumeration of this group. The failure of the 1961 Census to identify all hotels and boarding houses, particularly those in holiday resorts, is discussed here also.

The second chapter describes how the ten per cent sample was taken. When comparisons could be made at the national level between the sample and the full count it was discovered that there was a certain amount of bias in the ten per cent sample but, to the extent that it can be measured, the amount of this bias was not great. In fact the bias probably caused more damage to the census through the delay involved in assessing its extent than by its actual effect on census statistics. Another innovation with the 1961 Census was that an attempt was made to assess the true sampling errors to be attached to census information derived from the ten per cent sample. On the whole the results of this investigation supported the conventional rule of thumb practice of using the square root as the standard error, but there were exceptions to this general result and in particular it was found that migration statistics tended to have large sampling errors attached to them.

The degree to which the census questions were answered satisfactorily is discussed in the third chapter. The post-enumeration survey was the main instrument for testing this point and revealed certain areas where the census data are not wholly satisfactory. The under-statement of households lacking the use of a water-closet and the faulty question wording in relation to childless women were examples where improvements can be made. The use of birth registration records has permitted a detailed study of the accuracy of age statements.

The fourth chapter discusses the modifications introduced to census information as collected at the enumeration by the processing programme. The processing of census information introduces some additional errors in the form of coding and punching errors, etc., but also effects improvement particularly by means of editing the information. This editing to ensure consistency between different items of information was employed in 1961 for the first time on a large scale. This was made possible by the use of an electronic computer for the main data processing operation. Modifications were also introduced to the information as originally collected through the use of certain processing conventions which have to be adopted for the treatment of unsatisfactory or incomplete answers.

The final chapter in this statistical assessment deals mainly with comparability between 1951 and 1961 Census figures. In particular it indicates that with respect to occupation, industry and derived classification, where comparability is of some importance, the change of classifications between 1951 and 1961 had the effect of making such comparisons difficult to achieve.

CHAPTER 1

The Post-Enumeration Survey

For the first time in a census in England and Wales a post-enumeration survey was held following the 1961 Census. The aim of this survey was to assess the completeness of the enumeration and also the quality of the answers given to the questions which appeared on the census form and in the Enumeration Record Book. Although this was the first overall census check held in England and Wales, there were checks on some specific items following the 1951 Census as already mentioned. Details of these tests were published in the *Census 1951 General Report*.

The sample for the post-enumeration survey

The aim of the post-enumeration survey was to obtain information on both coverage and on quality which could be taken as representative of the accuracy of information for the whole of England and Wales. In order to do this for a reasonable cost it was decided to use a multi-stage sampling scheme where the first stage units should be scattered all over the country. It was seen that there would be considerable practical advantages in combining the check on the completeness of the enumeration (the "coverage check") and the check on the quality of the information given in reply to the census questions (the "quality check") and it was therefore decided that the sample to be used for the quality check should be a sub-sample of the sample used for the coverage check.

In deciding the sample size to be used for a particular enquiry it is a great advantage to have an estimate of the frequency of the occurrence of the characteristic which is being measured, in this case faulty information. There was no direct information available on the likely amount of faulty enumeration in the 1961 Census but slight evidence from the 1951 Census (see page 32 of the *Census 1951 General Report*) suggested that there may then have been net under-enumeration of about 3 per thousand population. It was decided therefore to aim at a sample of such size that from an estimate of under-enumeration from the sample of 2.5 per thousand it could be safely deduced (at the 5 per cent level of significance) that the true rate of under-enumeration was not greater than 5 per thousand. A sample of 3,200 people would produce 16 missed people if the rate of omission was 5 per thousand and 8 if the rate were halved and would therefore meet the criterion set out above. In the absence of any knowledge as to how missed people would be distributed in households it was decided to aim at a sample of 3,200 households. Since the only frame of households was a list of households enumerated which was, by hypothesis, suspect, it was decided to use an area sample in terms of plots each containing a small number of enumerated households and possibly some which had not been counted. The desired number of households in each plot was arrived at arbitrarily. From the statistical point of view it would have been sufficient for each plot to have two households in it. However, it would have been impossible to pick out plots of this size from the maps which were available and describe them in terms of features which could be recognised on the ground. The plot size was therefore increased so that on average it contained 20 households. Because each plot contained more than one enumerated household the number of plots could be reduced a little and a total of 2,500 was aimed at. Because neighbouring households tend to be relatively alike only the relatively small reduction from (3,200 to 2,500) was possible. The aim was merely to measure the amount of the error not its characteristics. It was considered that if the error rate was of the size expected its effect on census data would be negligible and investigation of its characteristics would not be an economic use of resources. Alternatively, if the degree of faulty enumeration proved to be much larger than expected, a sample of this size was thought to be large enough to give useful information on the characteristics of the error. Subsequent experience suggests that more attention could have been paid in planning this part of the post-enumeration survey to the situation where the overall level of faulty enumeration was very low but where a few sections of the population experienced a relatively high degree of faulty enumeration. A more intensive level of sampling in areas where such groups were believed to be concentrated is one approach which might have been fruitful. Practical considerations, including the short time available for planning meant that the post-enumeration survey had to be limited to the population enumerated in private households.

The sample actually used for the coverage check consisted of 2,500 plots each of which contained about 20 households. The method used for selecting this sample was first to select 2,500 ordinary enumeration districts, these being selected with probability proportional to their expected size in terms of numbers of households. All the ordinary enumeration districts in England and Wales were listed in a systematic order which ensured that neighbouring districts were listed close together. This would ensure that the sample was representative of all parts of the country and, therefore, that sampling errors of estimates made from it would be smaller than from a simple random sample which could, by chance, be geographically unrepresentative. The number of households expected in each enumeration district was also listed. The sampling interval was obtained by accumulating the expected number of households and dividing the accumulated grand total by 2,500. This sampling interval (6,087) was then added to a random start (3,530) and the enumeration districts containing the numbers so obtained were selected as first-stage sampling units.

Within each selected enumeration district the plot was selected by dividing the area of the enumeration district into ten arbitrary areas by drawing one East-West line and four North-South lines across the plan of the district. These arbitrary areas were then numbered one to ten and one area selected at random. The selected arbitrary area was then adjusted to convert it into a plot whose boundary could be identified in the field. The basic intention was that each plot should be defined in terms of features which were recognisable on the ground and also that it should contain between 10 and 30 households. In some enumeration districts these two criteria were difficult to reconcile and where the population was concentrated in a small area of the district, the criteria could not be fulfilled by the relatively standardised procedure which had to be used. Hence, plots were occasionally chosen which were entirely without population. Some of the selected plots were further adjusted at a later stage by the census officer. When the census officer examined the one, or possibly two, plots for which he was responsible, he compared them with the enumeration record book which had by then been completed and delivered to the census officer. If he found that the number of households was less than 10 or more than 30 he was instructed to add to, or subtract from, the originally selected plot until it contained about 20 households.

There are a number of points to be noted concerned with the sampling scheme for coverage purposes.

- (i) The enumeration districts were selected with probabilities that were based on the expected number of households and not the actual number. Over England and Wales the expected number of households was 15.2 million while the actual number of households was 14.6 million. This represents an excess of expected over actual of 4.1 per cent. If this proportion had been spread evenly throughout England and Wales no bias would be introduced into estimates made from the sample but in fact the differences varied considerably from area to area. This means that the sample instead of being self-weighting should strictly have been re-weighted to take account of the difference. This was not done. Some experimental work has been carried out which suggests that the effect of weighting the sample would have been small and would be unlikely to affect the validity of the results derived from the post-enumeration survey.
- (ii) The sampling scheme used involved sampling within enumeration districts in order to select a plot from each chosen enumeration district. It was, therefore, necessary to assume that the boundaries of enumeration districts were correct and it was not possible to check whether these boundaries had been defined clearly enough to avoid ambiguity in their definition or their interpretation by the enumerators. To overcome this fault it would have been necessary to use groups of one or more enumeration districts as first-stage sampling units. The procedures which have been used in the 1966 post-enumeration survey should meet this point.
- (iii) The sampling scheme as eventually used departed from a strict probability sample because of the adjustments made to the arbitrary areas as originally selected in order to convert them into the plots finally used. These adjustments have been described above and were made either in the census office to produce areas which were recognisable on the ground and of about the desired size and secondly by individual census officers where the originally selected plots contained less than 10 or more than 30 households. From a statistical point of view it would have been much more satisfactory to have avoided these adjustments since their nature is such that it is not practicable to assess their impact.
- (iv) In the event 2,533 plots were selected. These plots can be classified as follows:-
 - in 62 no post-enumeration survey could be held;
 - in 1,459 the plot was used as selected;
 - in 427 the plot was arbitrarily reduced by the census officer;
 - in 585 the plot was arbitrarily extended by the census officer.

In some of the early stages of processing these groups were treated separately, but few significant differences emerged between them and they have, therefore, been pooled in most of the results which appear later in this statistical assessment.

Because the quality check was expected to produce significantly more errors than the coverage check it was not considered necessary to use the whole of the plot for the quality check part of the post-enumeration survey. Instead of the average 20 households which each plot was designed to include, a further selection was made for the quality check. For this, every household originally enumerated on a ten per cent schedule was selected and, in addition, one household enumerated on a ninety per cent schedule. In a typical plot this would give three households. The ninety per cent household chosen was the household listed fifth after the first selected ten per cent household in the Enumerator's Record Book. This was an arbitrary method of selection but it was necessary to have a simple rule which could be operated easily by census officers and would give a sample which was effectively random. The object of having one ninety per cent household in each plot was to see whether, over the country as a whole, there were significant differences in the response to those questions which were common to both the ninety per cent schedule and the ten per cent schedule according to which schedule the head of the household had completed.

Timing of the post-enumeration survey

The census can be regarded as a snapshot of the population at a point of time and the longer the interval between the census and the post-enumeration survey the more the circumstances of the population would have changed and the

more difficult it would be for the persons concerned to recall the position on census day. On the other hand it was not possible to hold the post-enumeration survey immediately after the date of the census. Time was needed for the enumerators to complete the collection of their schedules and some of their clerical work. In addition, the period around the actual enumeration was the time when the load was the heaviest on census officers who could not have coped with the post-enumeration survey at this time. The interviewing for the post-enumeration survey began a week after census date and interviewers were allowed two weeks to complete the job.

Interviewers

To carry out a survey on the scale of the post-enumeration survey within a short period it was necessary to use people who had acted as enumerators as interviewers. Each census officer was told to recruit the required number among those of his better enumerators who were willing to do the job and who would not be checking a part of the enumeration district for which they had been originally responsible. The selected interviewers were given a short verbal briefing and a lengthy set of written instructions. The census officer was available to answer any queries. These enumerators were not skilled interviewers in any professional sense. This fact and the very limited instruction which it was practicable to give them were contributory factors in the failure of the post-enumeration survey to give satisfactory answers to some of the questions that were included.

The coverage check

The first step was to obtain the relevant documents from the original enumerator. Having obtained the enumeration records and the completed census forms from the original enumerator, the census officer had to identify which buildings lay within the plot. It was at this stage that the census officer made any necessary adjustments to the plot as selected at the census office. He copied particulars of those buildings and the dwellings, households, rooms and people enumerated in them on to the interviewer's coverage check form (see Appendix 1A - Form PES.1). The interviewer in this way had a list of the buildings, dwellings, households and rooms from the enumeration book and a list of the persons enumerated that had been extracted from the schedules. He was then instructed (see Appendix 1E "Instructions to Interviewers" Form PES.4) to search his plot. It was pointed out to the interviewer that in some places the circumstances would have changed even in the short time which had elapsed since census day, but that his job was to reconstruct the situation as it had been on census day.

The instructions stressed how important it was that the interviewer should discover the precise boundaries of his plot. It was pointed out that, despite efforts to the contrary, the boundary of a plot might be a line which it would be difficult to identify on the ground. Generally, any building not included on the coverage check form whose location made it doubtful whether it lay within the plot was to be included in the check. The interviewer was warned to be particularly careful to look for buildings in the grounds of other buildings and buildings with partly concealed locations. The interviewer was advised to check in an orderly manner and to check each block surrounded by roads or streets in turn, rather than checking one street at a time irrespective of whether it was crossed by side streets or had paths, lanes or alleyways leading off it. He was instructed not to use the same route as the original enumerator and to interview the head of each household he found. He was told to tick each item on his list which he found to be correct and to alter any items found to be wrong and where possible to give any explanation as to why the error had occurred. He was also given a Form PES.1B on which to record the particulars of any buildings, dwellings or households he found which were not on his original list. These last items were all apparent cases of under-enumeration.

It was originally intended to check the identification of dwellings in the course of the coverage check. Unfortunately, the relevant information was not included in the list of items to be transferred on to the Form PES.1. This was unfortunate because it was believed that the identification of dwellings by the enumerator presented some difficulties. This belief was confirmed when the preliminary work on the 1966 Census, which used dwellings identified in 1961 as part of the sampling frame, indicated that the identification of dwellings in 1961 was not wholly satisfactory.

It will be noted that on the coverage check, as on the quality check, the interviewer was given the original information. Circumstances limited the interviewer to making one visit to each household and the provision of the original information enabled the interviewer to spot any apparent discrepancy at once and to try and discover the reason for it.

The quality check

Two questionnaires were used in the quality check. The Housing Questionnaire (see Appendix 1C - Form PES.2) dealt with the tenure and household arrangements. One of these forms was prepared for each household included in the plot. The Personal Questionnaire (see Appendix 1D - Form PES.3) dealt with those questions addressed to each member of the household. There was one of these forms for each member of the household.

The census officer had already copied the answers from the schedules of the selected households into the final column of the Forms PES.2 and 3. The first two columns were occupied by the post-enumeration survey questions and their answers. The last column included, as well as the original schedule answers, space for the interviewer to add comments and explanations for any discrepancies which arose.

The interviewer was told to start his interview with the head of each household. The head of the household was to be encouraged to bring the other members of the household into the interview as appropriate, but it was impossible to insist on direct contact between the interviewer and each member of the household. When a discrepancy arose it was necessary to refer to the original information if any knowledge was to be obtained about the cause of the differences and it was stressed to interviewers that this information could be revealed only to the head of the household or to the person to whom it related. The post-enumeration survey was carried out on a wholly voluntary basis and this was made clear at the start of every interview. As will be seen from the Forms PES.2 and 3, the general approach of the quality check was to obtain the same information as had been given on the census schedule but using different questions. Sometimes an alternative approach was possible. The details of the wording of the various questions can be seen from specimen forms included in the Appendices to this chapter on pages 55 to 76, and some comments on certain of the questions appear in the discussion of the quality check for individual topics in Chapter III.

Processing the post-enumeration survey

After the interviews had been completed the interviewers handed in the completed post-enumeration survey forms to their census officer who forwarded them to the census office.

It was decided that the post-enumeration survey should be processed quickly in advance, so that information from it could throw light upon any problems which arose in the processing of the main census data. At this relatively early stage in the census processing programme no computer capacity was available for the post-enumeration survey material. It was necessary therefore to process this later by the manual method of ticking-out. This procedure achieved its immediate object of giving quick results and these results were, in fact, of value in some instances where decisions had to be taken on the treatment of incomplete or otherwise unsatisfactory information on the census schedule.

However, this quick manual method of production had serious disadvantages. It is difficult to achieve consistent ticking-out of different items of information and considerable time had to be spent on reconciling various tables produced from the post-enumeration survey. Perhaps more serious in the long term was that a ticking-out process makes it relatively difficult to obtain supplementary information at a later stage. This is because every additional item of information required can only be obtained by going through the full set of forms and ticking-out afresh, thereafter reconciling the totals, etc. with other information already extracted.

As far as the coverage check is concerned the processing involved simply a count of the discrepancies and whether these involved over- or under-counting. The number of discrepancies found was, in fact, relatively small and no detailed analysis was considered worthwhile.

With the quality check information the usual form of tabulation took the form of a two-way table. This form of table was essentially a cross classification of the answer given on the census schedule with the answer given to the post-enumeration questionnaire. In all tables a count is given of the households or individuals where no contact was made or where there was refusal to co-operate, classified by the information given on the census schedule. This form of complete cross classification was only practicable where the characteristics being classified contained only a limited number of groups. Where more

detailed or lengthy classifications are employed such as in age, occupation or industry, a complete cross classification would be too large to use and in these instances a more restricted form of tabulation has been employed which concentrates on, firstly, identifying the distribution of the characteristics of the post-enumeration survey and of the original census schedule and, secondly, the frequency of the main types of difference.

Sampling errors to be attached to the post-enumeration survey

In general terms, the post-enumeration survey results are given in terms of the proportion with a given characteristic or the proportion of errors in a given group, rather than in terms of absolute numbers.

Most of the items tabulated in the results of the post-enumeration survey can be regarded as being distributed in the form of the binomial distribution. This means that the formula used to estimate the standard error of a proportion is as follows. If n is the total number in a sample and x is the number with a given characteristic, then $x/n = p$ is the proportion with that characteristic, and the variance of p may be estimated as pq/n and the standard error of p as $\sqrt{pq/n}$.

All these formulae assume that the sample is a simple random sample of the units concerned. Thus, these formulae would hold if the characteristics of people were being estimated from a sample in which the sampling units were people. With the post-enumeration survey this is not so. The samples used for various parts of the post-enumeration survey are multi-stage samples. For all items of information the first stage sampling units were about 2,500 ordinary enumeration districts and the second stage were obtained by sampling within the units selected at the first stage. For the coverage check these second stage units consisted of complete plots which contained, on average, 20 households or about 60 people. For the quality check this later stage comprised smaller units of, on average, 3 households or about 9 people. These second stage sampling units are clusters within which the sample included everyone. If, therefore, for one of the personal characteristics the number of people in the post-enumeration survey is about 21,000, obtained by sampling 7,000 households each with 3 people, it would not be appropriate to compute the standard error of a proportion based on this sample as though it was a simple random sample of 21,000 persons. Such an estimate would provide a lower limit of the standard error. An upper limit would be obtained by assuming that the members of the cluster were uniform so that no precision at all would have been gained by taking more than one member from a cluster and the sampling error would be as though the number in the sample has been reduced to the number of clusters i.e. 7,000. Thus the difference between the upper and lower limits would here correspond to a variation in the sample size of 3 and, hence, a variation by a factor of $\sqrt{3}$ in the size of the sampling error. This is a specific example of the general principle in cluster sampling which is that the greater the variation within clusters, the greater the precision (i.e. the smaller the standard errors) of cluster sampling. It has not been possible to compute the relationship between the variation within clusters compared with the variation of the whole population for the sample used in the post-enumeration survey, but some subjective assessment of this in very general terms appears in later sections where the results of the post-enumeration survey are discussed.

Completeness of Coverage

The first problem to be faced in a statistical assessment of a census population is whether the census achieved a complete enumeration of the whole population which was present in England and Wales on census night. This involves counting everyone present once and only once; to count a person more than once is just as much a fault as to miss someone.

A part of the post-enumeration survey was devoted to this task and the results of this are discussed in the following paragraphs. Comparison of the census results with the annual series of population estimates is also made below. Although this cannot be regarded as a real check on the completeness of the census count and therefore too much should not be read into the close correspondence of the two sets of figures, the lack of marked disagreement is some comfort.

Results of coverage check of post-enumeration survey

Table 1 shows the results of the population coverage check of the post-enumeration survey. In the whole sample 146,692 people were enumerated. Of these 209 were found to have been counted twice in the census and a further 240 omitted.

Table 1 Post Enumeration Survey: Coverage check of persons England and Wales

Type of plot or area	Enumerated population in P.E.S. sample	Originally enumerated more than once		Not enumerated originally		Balance of Under enumeration (-) Over enumeration (+)	
		Number	Per thousand	Number	Per thousand	Number	Per thousand
Type of plot:-							
As selected	83,615	126	1.5	150	1.8	- 24	- 0.3
Diminished	28,097	42	1.5	34	1.2	+ 8	+ 0.3
Extended	34,980	41	1.2	56	1.6	- 15	- 0.4
Type of area:-							
County or Metropolitan Borough	57,337	94	1.6	138	2.4	- 44	- 0.8
Municipal Borough	35,821	47	1.3	41	1.1	+ 6	+ 0.2
Urban District	28,675	36	1.3	43	1.5	- 7	- 0.2
Rural District	24,859	32	1.3	18	0.7	+ 14	+ 0.6
Estimate for England and Wales		62,500	1.4	70,000	1.6	-7,500	- 0.2
Approximate 95 per cent Confidence limits		±12,500	±0.3	±12,500	±0.3	±13,500	±0.3

N.B. Raising factors used: C.B. or Met.B. 277; M.B. 297; U.D. 299; R.D. 368.

The net under-enumeration of 31 in the sample is equivalent to an error rate of -0.2 per thousand for the whole population but by itself this is of little use. The results for gross under- and over-enumeration suggest that the 95 per cent confidence limits for this net under-enumeration of 31 are of the order of ±55 or about 0.3 per thousand. This is assuming that the sample was a simple random sample of households with average size of three persons. In fact the sample was clustered into 2,500 plots of about 60 people each but it is unreasonable to suppose that this had much effect on the size of sampling errors.

In grossing up the sample results to give estimates for England and Wales as a whole, separate raising factors have been applied to the results for each type of administrative area. This compensates for the fact that the sample over-represents county and metropolitan boroughs (where gross under-enumeration is high) and under-represents rural districts (where gross under-enumeration is much lower). This bias is due to the fact that the average population of enumeration districts in county and metropolitan boroughs is much higher than in rural districts. Consequently the average population per plot is greater in the former than the latter. For the sample to have been unbiased the average population of plots should have been similar for all types of area.

For England and Wales therefore gross over-enumeration in the census is estimated at 62,500, gross under-enumeration is estimated at 70,000 and net under-enumeration is estimated at 7,500 i.e. 0.2 per thousand population. There is a one in twenty chance that the true position lies outside the limits of net under-enumeration of 21,000 (0.4 per thousand population) and net over-enumeration of 6,000 (0.1 per thousand population). The smallness of the net under-enumeration coupled with the size of the probable sampling error are such that the only valid conclusion to be drawn from the coverage check is that it provides no evidence of serious errors of coverage in the 1961 Census. The design of the enquiry was such that the quality of the results may be suspect but there is no information on this. However the procedures adopted for the check on the sample frame for the 1966 Census may well provide further data on the coverage of housing units in 1961.

Comparison with annual estimates

As already suggested, an indication of the completeness of the census enumeration in net terms is provided by a comparison with the annual estimates of population. The enumerated population at the 1961 Census was 46,104,548. The neighbouring estimates of the Home population were

Mid-1960 45.755 million

Mid-1961 46.166 million.

The normal methods employed by the General Register Office using the 1951 Census as a starting point would have produced an estimate on census date of 46.051 million. This clearly suggests that the correspondence between the census population and the normal annual population was quite close, the difference being 54 thousand or just over 1 per thousand. This close correspondence lends some support to the view that the census count was reasonably accurate.

However, the virtual coincidence of these figures should not be over-valued. In 1951, when the annual estimates were firmly based on the National Register and the ration book issue, it was reasonable to regard the annual estimates as providing a check on the completeness of the census count. In 1961, this position was no longer tenable. While there is no reason to doubt the accuracy of the annual birth and death figures, the estimates of migration between 1951 and 1961 had to be based on partial information whose reliability was sometimes doubtful. While it was still true that the annual estimates at the census could be regarded as independent figures with respect to the census, the close agreement, while comforting, does not provide a clear check on the validity of either. The weakest element of the annual estimates was the estimate of migration and it is possible that the net migration between 1951 and 1961 could have been under-estimated. If this had happened and if, in addition, the census has under-enumerated some immigrant groups (as has been suggested with respect to the West Indians for example) then both the annual estimate and the census would under-state the population, but could still be in close agreement.

As is suggested below, really firm evidence is lacking on this point but on the whole it seems inherently unlikely that there would be a large error in either of these sources which would have been so similarly reflected in the other.

Under-enumeration of West Indians

Even if the standard of enumeration were high for the population in general, the quality of the enumeration may be lower for certain groups whose enumeration presents special difficulties. For example, the very mobile element in the population is likely to present such difficulties, as would the small part of the population with no fixed abode. It is not only difficult to enumerate such groups, but also practically impossible to make a check on the completeness of their enumeration. There is usually no alternative source of information about such groups which attract relatively little public attention.

The surge of immigrants in the period preceding the 1961 Census, particularly the immigration of coloured people from certain Commonwealth countries, has focussed attention on a readily identifiable group in the population. This group is also one where, for a variety of reasons, there are likely to be difficulties in carrying out a complete enumeration. For example, in 1961, many may have found the whole notion of a census unfamiliar. There would also have been difficulties of language and comprehension of the census returns themselves. In addition, some people have felt that the fact that a disproportionate number of immigrants were probably living in crowded housing conditions would have tended also to lead to under-enumeration.

It is difficult to gauge what, if any, truth there is in such reservations.* In the particular instance of West Indians, some people have sought to base the case for under-enumeration on a calculation which adds to the 1951 Census returns such estimates as are available of the net immigration of West Indians during the period between the two censuses. At the time of the 1951 Census 16,000 West Indian residents were enumerated; between the 1951 Census and the 1961 Census, figures collected by the Home Office suggest that there was a net inward movement

* C.S. Hill, *West Indian Migrants and the London Churches*, Institute of Race Relations, O.U.P., London 1963, pp. 81-87.
G.C.K. Peach, *Under-enumeration of West Indians in the 1961 Census*, *The Sociological Review*, March 1966, pp. 73-80.

of about 190,000 which give a total of about 206,000 West Indians who could be expected to be in this country at the time of the 1961 Census (always assuming, that is, that the 1951 count of this group was correct). In fact the number enumerated in 1961 was 172,000 which could suggest a difference of 34,000 or about 20% of the census figure.

The main uncertainty in this comparison lies in the estimates of net migration between the two censuses. Figures were collected by the Home Office only from the beginning of 1955 and were then based on a "rough count" made by immigration officers at the ports. It is considered that there may well have been under-counts of travellers in both directions and there is no reason to suppose that the amount of under-counting will necessarily have been the same in both directions so that the errors cancelled each other out. These qualifications mean that the net figures could well be in error.

The post-enumeration survey does not help here. The total number of people that the post-enumeration survey showed had not been enumerated (213 in the whole of England and Wales) was so small that no useful analysis can be made of the figures.

However, a pointer may be obtained from the fact that the West Indians are relatively concentrated geographically. The following table shows, for those

Area	Persons born in Colonies or Protectorates in America	Census Resident Population (Estimate definition)	Annual Population Estimates Mid-year:-	
			1960	1961
London A.C.	70,500	3,190,787	3,194,480	3,179,980
Battersea Met.B.	3,200	105,163	107,120	104,980
Camberwell "	4,400	174,799	175,020	173,980
Hackney "	7,600	164,134	163,050	163,180
Hammersmith "	3,400	108,842	108,290	108,010
Islington "	7,900	227,234	222,940	227,170
Kensington "	5,300	171,639	167,240	169,080
Lambeth "	10,100	222,237	224,080	221,960
Lewisham "	2,800	221,193	221,330	220,910
Paddington "	5,700	115,607	113,350	113,980
Wandsworth "	5,500	347,522	338,800	346,790

Metropolitan Boroughs where West Indians were concentrated, a comparison of the census resident population (estimate definition) with the annual population estimates for mid-1960 and mid-1961. There is certainly no evidence here to suggest that the census population for those areas where West Indians were concentrated shows any consistent tendency to be lower than the annual estimates would have led one to expect. This is not evidence of completeness of enumeration, but on the other hand it certainly lends no support to the idea of a 20 per cent under-enumeration of West Indians, let alone immigrants from other Commonwealth areas. To reconcile these figures with a 20 per cent under-enumeration of immigrants in the census it is necessary to postulate that the annual population estimates which contain the right national total of immigrants, have placed the immigrants in the wrong areas. There is no evidence of that.

On the whole it seems unlikely that the under-enumeration was as large as the 34 thousand as suggested above. On the other hand, it seems quite probable that there was some under-enumeration, particularly as this group of Commonwealth immigrants tended to be concentrated in multi-occupied buildings where enumeration tends to be most difficult.

Enumeration of hotels

Changes in the enumeration procedure in 1961 compared with 1951 produced unforeseen difficulties in the production of a comparable count of hotels and boarding-houses.

In 1951, the enumerator was instructed to note the nature of any household with 10 or more persons or which occupied 10 or more rooms. As a result, any such household which was a hotel or a boarding-house was counted as such, irrespective of whether the fact that it was a hotel or boarding-house was clearly advertised on the outside.

In 1961, on the other hand, a hotel or boarding-house was basically identified as such because it was enumerated on an Institutional Schedule ("I" Schedule). The enumerator was told to issue an "I" Schedule to hotels and boarding-houses when he came across them. This meant that the enumerator had to recognise that a household was in fact a hotel or boarding-house before he would issue an "I" Schedule.

A hotel or boarding-house with more than 10 rooms but which did not clearly advertise the fact (or which the enumerator did not recognise as a hotel or a boarding-house for any other reason) was counted as such in 1951 on account of the special note made of all such households. In 1961, such a household was liable to be enumerated on a private household schedule. The impact of this change was reduced in many places by a processing convention in the course of the Schedule Revision process that any household with five or more boarders was treated as a boarding-house. However, this convention would have little effect in areas where most of the hotels and boarding-houses depended on seasonal holiday trade because, at the time of the census, there would be very few boarders present in such places.

The result of this change was, therefore, that in areas with considerable numbers of seasonal hotels and boarding-houses there was a remarkable fall in the number of such places between 1951 and 1961. An extreme example of this was Rhyl U.D. where in 1951 there were 208 hotels or boarding-houses with 10 or more rooms, whereas in 1961 the original enumeration showed only 14 such hotels. A similar feature was found to a less extreme form in a number of other areas including Llandudno R.D. (483 down to 92), Colwyn Bay M.B. (174 down to 84) and Clacton U.D. (196 down to 65).

In some of these resorts it was likely that at least part of the fall was genuine because of the general conversion of hotels to flats which took place between 1951 and 1961. Nevertheless, it was decided to check the validity of these and certain other figures. This was achieved by asking the Local Authority to state the nature of each of the premises from a list of addresses which was sent to them after comparison of enumeration records for 1951 and 1961.

Corrections to the original census records were made wherever households were discovered to be hotels.

Some examples of the overall effect of the correction of the number of hotels and boarding-houses in the way described were as follows:-

Effect of correction of count of hotels, etc.

Area	Number of hotels and boarding-houses with 10 or more rooms	
	As originally enumerated	After correction
Clacton U.D.	65	148
Mablethorpe and Sutton U.D.	7	37
Morecambe and Heysham M.B.	66	479
Ryde M.B.	28	69
Sandown-Shanklin U.D.	136	273
Rhyl U.D.	14	154
Llandudno U.D.	92	147
Colwyn Bay M.B.	84	96

It was practicable to make these adjustments only in the areas where the data seemed, on examination, to be most faulty. Other holiday resorts are likely to have been affected, although to a somewhat smaller degree. This should be borne in mind when these data are used. A warning note was included into the introductory material for both the *County Reports* and for the *Age, Marital Condition and General Tables*.

Census Dist. No.	Enumeration Dist. No.	Plot No.
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PART B

Record of buildings, dwellings and households, added to PART A

[illegible]

POST-ENUMERATION SURVEY

PES.2.

Quality Check - Housing Questionnaire

Before issuing this form to the enumerator the Census Officer should complete the identification panel below and copy the entries from the schedule where indicated on this form.

Name of head of household Schedule No.
Census Dist. No. Enumeration Dist. No. Plot No.
Order of interview

I	Questionnaire	II Replies*	III Schedule entries
1.	<p>(i) Do you own this accommodation?</p> <p>(ii) If "Yes" - Do you hold it on a leasehold?</p> <p>(iii) If "Yes" - For how long was it originally granted? (If not known - was it for more or less than 21 years?)</p> <p>(iv) Has it been extended since?</p> <p>(v) If "Yes" - For how long?</p>	<p>Yes / No</p> <p>Yes / No</p> <p>.....</p> <p>Yes / No</p> <p>.....</p>	<p>L.(a)</p> <p><u>Remarks</u></p>
2.	<p>If "No" at 1(i) -</p> <p>(i) Do you rent your accommodation?</p> <p>(ii) If "Yes" - Do you rent it -</p> <p>(a) with business premises (ask only where accommodation appears to be connected with a farm, shop or business premises),</p> <p>(b) in connection with the job of a member of the household,</p> <p>(c) from your local council,</p> <p>(d) from some other person?</p> <p>(iii) If (b) in (ii) - Does the person have to give up the accommodation when the job ends?</p> <p>(iv) If (d) in (ii) - Do you rent it furnished or unfurnished?</p>	<p>Yes / No</p> <p>(a)</p> <p>(b)</p> <p>(c)</p> <p>(d)</p> <p>Yes / No</p> <p>Furnished / Unfurnished</p>	<p>L. (b) (c) (d) (e) Fur. Unfur.</p> <p><u>Remarks</u></p>
3.	<p>If neither rented nor owned -</p> <p>How do you hold this accommodation?</p>	<p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>L. (f)</p> <p>.....</p> <p>.....</p> <p><u>Remarks</u></p>

* Enumerator to ring the alternatives that apply.

<p>4. (i) Do you have the use of a cold water tap?</p> <p>(ii) If "Yes" - Does only your household use it or do you share it with someone else?</p> <p>(iii) Where is the tap - inside or outside the building?</p> <p>(iv) If "No" to 4(i) - where do you get your water?</p>	<p>Yes / No</p> <p>Exclusive / Shared</p> <p>Inside / Outside</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>M. (a) <u>Remarks</u></p>
<p>5. (i) Do you have the use of a hot water tap?</p> <p>(ii) If "Yes" - Does only your household use it or do you share it with someone else?</p> <p>(iii) If "No" - How do you get your hot water?</p>	<p>Yes / No</p> <p>Exclusive / Shared</p> <p>.....</p> <p>.....</p> <p>.....</p>	<p>M. (b) <u>Remarks</u></p>
<p>6. (i) Do you have the use of a fixed bath?</p> <p>(ii) If "Yes" - Does only your household use it or is it used by another household also?</p>	<p>Yes / No</p> <p>Exclusive / Shared</p>	<p>M. (c) <u>Remarks</u></p>
<p>7. (i) Do you have the use of a W.C?</p> <p>(ii) If "Yes" - Does only your household use it or is it used by another household also?</p> <p>(iii) If "Yes" to (i) - is it (a) inside the building (b) attached to the building (c) elsewhere? - please say where.</p>	<p>Yes / No</p> <p>Exclusive / Shared</p> <p>(a) / (b) / (c)</p> <p>.....</p> <p>.....</p>	<p>M. (d) <u>Remarks</u></p>
<p>8. Ask these questions only where a household shares a dwelling.</p> <p>(i) Do you have a kitchen stove and kitchen sink to yourselves?</p> <p>(ii) If "No" - Are either or both of them shared with someone else?</p> <p>(iii) Have you neither a kitchen stove nor a kitchen sink?</p>	<p>Yes / No</p> <p>Yes / No</p> <p>Yes / No</p>	<p>Stove and sink ^{E/N}..... <u>Remarks</u></p>

Quality Check - Personal Questionnaire

Before this form is issued to the enumerator the Census Officer should complete the identification panel below and copy the entries relating to this person from the schedule into column III of this form as appropriate. Any CONFIDENTIAL PARTICULARS copied on to the schedule MUST NOT BE COPIED ON TO THIS FORM.

Name of Person	(Present/Absent at interview)	
Census Dist. No.	Enumeration Dist. No.	Plot No.
Schedule No.	Line No. on Schedule	
(e.g. 1st, 2nd, 3rd, etc., Part III, 1st, 2nd, 3rd)		

I	Questionnaire	II Replies*	III Schedule entries
1.	How are you related to the head of this household?	.....	Col. B. <u>Remarks</u>
2.	Have you more than one residence? (a) If "No" - what is the address where you usually live? (Answer "Here" if appropriate) If not "Here" - is the address you have given (i) a school or college or near to such OR (ii) a military camp or establishment OR (iii) near your place of work? (b) If "Yes" - what are the addresses of your residences? From which of these do you go to work? At which do you spend most week-ends?	Yes/No School/Camp/ Near work/ none of these (a) (b) a/b/None a/b/None	Col. C. <u>Remarks</u>
3.	Have you lived at your present usual residence since birth? (i) If "No" - when did you move to it? (ii) If the date in (i) is <u>since 23rd April 1960</u> - what was the full address of your previous usual residence?	Yes/No	Col. N (i) .. (ii) ... (iii) <u>Remarks</u>
4.	What was your date of birth? (An automatic check on the statement of sex should be made.)	.....	Col. D. Sex Yrs. ... Mths. <u>Remarks</u>

* Enumerator to ring the alternatives that apply.

Section 5 for persons born before 24th April, 1945 only		Add remarks in space available in this column.
<p>5. A. Ask these questions of <u>WOMEN</u> only - (For women enumerated in Part III of the schedule ask the questions at B.)</p> <p>(i) Have you ever married? If "Yes" -</p> <p>(ii) Have you married more than once? If "Yes" -</p> <p>(iii) (a) What was the date of your first marriage? </p> <p>(b) When did your first marriage end? </p> <p>(c) Are you now married, widowed or divorced? If married -</p> <p>(d) What was the date of your present marriage? </p> <p>If "No" to (ii) -</p> <p>(iv) (a) What was the date of your marriage? </p> <p>(b) Are you now married, widowed or divorced? If widowed or divorced -</p> <p>(c) When did your marriage end? </p> <p>If "Married" at (iii)(c) or (iv)(b) above -</p> <p>(v) How many children have been born alive to you of this marriage? (Record any number including 0)</p> <p>.....</p> <p>If "Yes" to (ii) above -</p> <p>(vi) How many children have been born alive to you of any previous marriage? </p> <p>If 1 or more at (v) above -</p> <p>(vii) Give the dates of birth of any of your children under two years of age not enumerated with this household </p> <p>B. Ask these questions of <u>MEN</u> only and women entered in Part III of the schedule -</p> <p>(viii)(a) Have you ever married? Yes/No</p> <p>(b) If "Yes" - are you now married? Yes/No</p> <p>(c) If "No" - are you now widowed or divorced? Wd/Dd.</p>	<p>Col. E.</p> <p>Col. G. (ii)</p> <p>Col. H. (i)</p> <p>(ii)</p> <p>Col. E.</p> <p>Col. G. (i)</p> <p>Md/Wd/Dd.</p> <p>Col. F. (i)</p> <p>Col. F. (ii)</p> <p>Col. E.</p> <p>Col. E.</p> <p>Wd/Dd.</p>	<p>Col. E.</p> <p>Col. G. (ii)</p> <p>Col. H. (i)</p> <p>(ii)</p> <p>Col. E.</p> <p>Col. G. (i)</p> <p>Col. F. (i)</p> <p>Col. F. (ii)</p> <p>Col. E.</p> <p>Col. E.</p> <p>Wd/Dd.</p>
<p>6. Where were you born? (town, village, province, etc.)</p>	<p>.....</p> <p>.....</p>	<p>Col. J.</p> <p><u>Remarks</u></p>

<p>7. Ask these questions <u>only</u> if person born outside the U.K. -</p> <p>Of what country are you a citizen or national?</p> <p>If the United Kingdom or one of its colonies -</p> <p>Did you become a citizen because -</p> <p>- you were born there?</p> <p>- your father was a citizen of the U.K. and colonies?</p> <p>- (for women only) - you married a citizen of the U.K. and Colonies</p> <p>- you have been naturalised?</p> <p>If none of the above - how did you become a citizen of the U.K. and colonies?</p>	<p>.....</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> <p>Yes/No</p> <p>.....</p>	<p>Col.K. (i)</p> <p>(ii)</p> <p><u>Remarks</u></p>
<p><u>Question 8 for persons aged 15 or over</u></p> <p>8. Are you now receiving full-time education?</p> <p>If "No" - when did you finish your full time education?</p>	<p>Yes/No</p> <p>.....</p>	<p>Col.O.</p> <p><u>Remarks</u></p>
<p>9. Have you a qualification in agriculture, mathematics, science, engineering or technology?</p> <p>If "Yes" - (i) what branch is it in?</p> <p>(ii) what qualification is it?</p>	<p>Yes/No</p> <p>.....</p> <p>.....</p>	<p>Col.Q.(i).....</p> <p>(ii).....</p> <p><u>Remarks</u></p>
<p>10. (i) Did you have a job during any part of the week before Census day, 23rd April?</p> <p>(ii) If "No" -</p> <p>- a housewife - not started</p> <p>- on home duties work</p> <p>- sick and expecting - out of</p> <p>to work again employment</p> <p>- a student or at - temporarily</p> <p>school laid off</p> <p>- retired</p> <p>- other</p> <p>(please say what)</p> <p>(iii) If "Yes" to (i) -</p> <p>Did you become unemployed or retired during the week before Census Day?</p> <p>(iv) If "Yes" to (iii) -</p> <p>Did you become (a) out of employment (b) out of employment and sick (c) retired?</p> <p>(v) Did you change your job during the week before Census Day?</p> <p>[If "Yes" enumerator should ask the questions at 11 to 16 in respect of the employment at end of the week]</p> <p>(vi) If "No" to (v) - Did you follow more than one employment during the week before Census Day?</p> <p>[If the person regards one of these employments as his main or usual employment ask for details of that employment at 11 to 16; if not ask for details of both employments.]</p>	<p>Yes/No</p> <p>.....</p> <p>Yes/No</p> <p>a/b/c</p> <p>Yes/No</p> <p>Yes/No</p>	<p>Col.S.(f).....</p> <p>Col.T.....</p> <p><u>Remarks</u></p>

For persons who answered "sick and expecting to work again" or "out of employment" or "retired" to question 10(ii) and those who answered "Yes" to 10(iii), ask the questions at 11, 13, and 14, in respect of the person's last full time job.

If the answer "Yes" has been given to 10(i), "temporarily laid off" to 10(ii) or "No" to 10(iii) - ask the following questions 11 to 17.

11.	(i) Did you work for yourself or someone else?	self/other	Col.s.R(a) or S(g).....
	(ii) If "self" - Did you employ other people apart from relatives living in this household?	Yes/No	..... <u>Remarks</u>
	(iii) If "other" - What was the full name of the firm, organisation or person that employed you?	..... ..... .....
	(iv) If "self" at (ii) - What was your trading name if any?	..... .....
12.	(i) In your job in the week before Census Day, did you have a fixed place of work or did you work from a fixed address or depot?	Yes/No	Col.R(c)..... <u>Remarks</u>
	(ii) If "Yes" - What was the full address?	..... ..... .....
	[(iii) If "No" - Enumerator to record details.]	..... ..... .....
13.	(i) What was the kind of business done there? OR	..... .....	Col.R(a).....
	(ii) If "self" at 11(i) above - what kind of business did you carry on there?	..... .....	<u>Remarks</u>
	(iii) If "other" at 11(i) above - In what department, section or branch did you work?	..... ..... .....
14.	(i) What is the name of the job that you were doing?	.....	Col.R(b)(i) or S(h).....
	(ii) Would you please describe fully in your own words what this occupation is -	..... ..... .....

Check lists (not for the self-employed)

Is the respondent - a manual worker/ a non-manual worker/ a sales worker/
a service worker/ engaged in agriculture.

If he is a manual worker is he - supervisory/ skilled or apprenticed/ semi-
skilled/ unskilled or labouring.

and is the function of his occupation in the place where he works -
construction/ production/ maintenance/ store keeping/
material handling/ transport/ other.

If he is a non-manual worker is he - professional/ technical/ managerial/
clerical/ other.

If he is a sales worker is the selling - retail/ wholesale/ travelling/
door to door/ as an insurance agent/ other.

If he is engaged in agriculture is he engaged in - general farming/ horticulture/
forestry/ driving or operating agricultural machinery.

For a person who answered "Other" at 11(1) -		
14. (iii) What is the grade, rank or title of your immediate supervisor?	..... .....
(iv) If you are a foreman, manager or supervisor, what is the nature of the work you supervise?	..... ..... .....
15. (i) Were you apprenticed, articulated, or being formally trained?	Yes/No	Col. R.(b)(ii)..... <u>Remarks</u>
(ii) If "Yes" -		
(a) Was the period of your training known and fixed in advance?	Yes/No	
(b) Does this training lead to recognition as a skilled worker or technician? OR In the form of a professional, technical or commercial qualification? OR Does it lead to a managerial post?	Yes/No Yes/No Yes/No	
16. (i) Did you work your total usual hours in the week before Census Day?	Yes/No	Col. R.(d)(i)..... (ii) <u>Remarks</u>
(ii) (a) If "Yes" - How many hours did you work including meal breaks?	.....
(b) If "No" - How many do you usually work including meal breaks?	.....
(iii) Do you regard the hours at ii(a) or (b) as full-time or part-time?	Full/Part	
(iv) For men only - If part-time at (iii)- Have you ever had a full-time job?	Yes/No	
17. If "Yes" to 16(iv) -		
(a) Describe fully what the last full-time job was -	..... .....
(b) What was the kind of business in which you were employed?	..... .....	Col. R.(e)(i)..... (ii) <u>Remarks</u>
(c) Were you self employed?	Yes/No	
18. Ask this question only if person was or should have been entered in Part III of the schedule.		
What was the full address of the place where you spent Census night?	..... ..... .....	Pt.III Col. U
<u>Remarks</u>	..... .....

POST ENUMERATION SURVEYInstructions to InterviewersA. Introduction

This enquiry is being conducted on an entirely voluntary basis; but in the hope that householders will be willing to co-operate when the purpose of the survey has been explained. It is an official survey conducted as part of the 1961 Census, by interviewers subject to the same control as the census enumerators, and the results will be treated in the same strict confidence as the census results.

The enquiry is in two parts, the coverage check which is concerned with all the buildings and other possible habitations in the particular area assigned to you, and the quality check, which requires more detailed information in addition from a small number of households in this area. The purpose of the two checks, and instructions for carrying them out, are given in the following sections.

If the head of the household, or person acting for the head, seems to require a fuller explanation, then you should go into fuller detail and so allay any suspicion or anxiety.

Do not attempt any interview on the doorstep if it can be avoided. The request "Do you mind if I step inside" is usually favourably received.

Do not let heads of households get the impression that the interviews for the quality check will only take a few minutes; they may not be able to afford more time on the occasion of your call. You would not be able to conduct a satisfactory interview under such circumstances, and it would be better to make an appointment to call again later. If you make such an appointment, be sure to be punctual.

Do not be put off if the first response is unfavourable; such an attitude may change after a fuller explanation.

If, however, the head of the household is still unwilling to co-operate when you have given a full explanation of the aims of the survey and the confidential treatment to be given to the information being sought, then, having made it quite clear that the enquiry is voluntary, you should make no further attempt to persuade.

Where the interview is not carried out because you cannot make contact within the time allowed, or where the persons concerned do not wish to take part, you should note the reason on the appropriate forms. But you are only to interview households within the area assigned to you, and you are not required to substitute other households in the place of households not contacted or unwilling to take part.

In some cases the head of the household, or the person who completed the census schedule for the head, may not be present when you call. You should ask when he or she is likely to be available, and if this is before the 15th May, you should arrange to call again when convenient.

If however there is an adult member of the household who is present when you call and willing to assist, you may interview him or her for the coverage check. But if they are hesitant and prefer to leave it to the head of the household, then you should arrange to call again. For the quality check you should make every effort within reason to make contact with the head or the person who completed the schedule.

It is important to realise that the success of the survey depends upon the goodwill of the general public, and the willingness of the respondents to co-operate voluntarily. Much therefore depends upon the interviewer creating a good impression, and the quality of the information obtained may depend very much upon how well the interviewer has been able to explain the purpose of the survey.

B. Coverage check

The aim of the coverage check is to test the accuracy of the original enumeration, that is whether all the buildings, dwellings, households and persons which should have been counted were actually counted. In order to test this, a representative sample of 2,500 small plots (each containing about 20 households) has been taken throughout England and Wales. These plots are to be checked thoroughly to discover whether the original census enumeration was carried out with complete accuracy and to ascertain what difficulties, if any, arose. Your job is to carry out this check for one of these plots. This means that you will have to go over your plot and check all the buildings, dwellings, households and the number of persons in each household that you find in your plot. The object is that this check should be very thorough and this means taking the same care and perhaps even more time than was taken over the original enumeration. To make this possible, your plot is only a small part of the original enumeration district.

One point to be remembered is that you have to try to find out what the position was on census night. It is only to be expected that in some places the circumstances will have changed even in the short time which has passed since the Census, but your job is to try to reconstruct the situation before these changes occurred.

1. Know the boundaries of your plot

This is most important. The boundaries will be given to you in writing and you will also see them set out on a plan. You must be careful not to go beyond the boundary of your plot but at the same time be sure to include all the area within the boundary. The boundaries of the plots are in some cases lines which it may not always be easy to identify on the ground. If you are in real difficulty on this point you should consult your Census Officer. Where you find a building which lies near the boundary and is not listed in Part A of your Record (Form PES. 1 and 1A) then you should include it in your check unless it is a building such as a block of flats which is likely to contain several households in which case you should confirm its inclusion with your Census Officer. Be particularly careful with buildings that are in the grounds of other buildings or are situated down paths and alleyways off roads in your plot as, although the main building or the road may be within your plot, the "concealed" buildings may lie on the other side of the boundary line; any such buildings should be excluded.

2. Check in an orderly manner

Check the plot in whatever order you prefer, but it will help yourself and the people who are to use your results if you carry out the enumeration in an orderly manner, for example by starting in one corner of the plot and working over it in a systematic manner; thus if you are checking in a built-up area you should work round each block of land enclosed by streets, rather than checking one street at a time irrespective of whether it is crossed by side streets or has paths, lanes, or alleyways leading off it; if your plot is divided in two by a road, then check all the ground on one side of the road before you start on the other. Do not follow the route of the original enumerator blindly; make sure he has not overlooked any part of the plot.

3. Record of coverage check

The Record of the coverage check consists of two parts. Part A (Form PES.1 and 1A) is an extract from the original enumeration record with columns added showing the names of the persons who were originally enumerated (Columns 8 and 10) together with a "Remarks" column (Column 11). As you carry out your enumeration tick each item you find to be correct and where an item is not correct enter an X to show that an error has been made and make the correction in the "Remarks" column as indicated in later sections. Part B (Form PES.1B) is for the recording of additions to the original enumeration of buildings, dwellings and households.

If you are in any doubt as to whether an error has been made, treat it as an error and add a full description of the circumstances in the "Remarks" column (Column 11). Specific instructions are given in later sections about the correcting entries to be made, but in general you should make the fullest possible use of Column 11. Every entry in Column 11 must start with a note of the line number and column letter(s) to which it refers. Write the entries in Column 11 as nearly opposite to the line of the original entry to which they refer as you can.

Try to account for all the buildings, dwellings, households and persons listed in Part A of your Record. Regard the items listed in Part A as only the starting point of your canvass and always be on the alert for omissions. Check the whole of your plot and not merely the items

in Part A.

4. Buildings

Check Column 2 in Part A of the Enumeration Record for every building that you find. If the building was entered in Part A put a tick in Column 2. If the building was not entered in Part A make an entry in Part B. Insert the address of the newly found building in Column 1 of Part B and go on to complete the other columns in respect of the building type and any dwellings, households or persons that you find and which should have been enumerated. If the building has been completed since the Census, write "Completed since Census" in Column 8. Otherwise write in Column 8 any factor which you think may have led to the building being missed on the original enumeration.

If the building appears in Part A and you cannot find it in your plot then put "X" in Column 2 and an explanation in Column 11. If the building has been demolished since the Census make an entry in Column 11, thus "Line 27 Col.2. Building demolished since Census". You should try and check as many of the particulars in respect of the building as entered in Part A as you can, by enquiry from neighbours etc. Any details that you are unable to check you should note in the "Remarks" column thus, "Unable to check Cols. y to z". If a building entered in Part A exists but is outside the boundary of your plot then put "X" in Column 2 and write in Column 11 "Line ... Col.2; Building outside this plot" quoting the line number.

All caravans, houseboats, chalets, huts, shacks, tents, converted railway carriages and similar non permanent structures should be checked very carefully. They should be treated as buildings if they were occupied on Census night or some person's usual residence on Census night. For a mobile dwelling (to be treated as a building) that was in the plot on Census night but has since been moved away and which was entered in Part A, make an entry in Column 11, e.g. "Line 27, Col.2. Caravan moved away since Census". If you are told of such a mobile dwelling which was not entered in Part A, then record the information you have been given in Part B, but record who supplied the information.

Check that the entry in Column 3 is a correct record of the building type; if so, put a tick in Column 3; if not, enter the correct type in Column 3, and add a note in Column 11 on the likely source of the error.

5. Dwellings

Check that every dwelling you find is entered in Column 4; if so, put a tick in Column 4; if not then make an entry in Part B as follows:

Column 3 Address of dwelling

Columns 4, 5, 6 and 7. Complete as necessary (that is if you find that one or more households occupied the dwelling on Census Night)

Column 8 (Remarks). Enter possible reasons for omission.

If a dwelling is entered in Part A which you cannot find in your Plot, put "X" in Column 4 and make an entry in Column 11 as follows: "Line ... Col.4. unable to trace dwelling" and add a note giving the likely reason. This does not apply where the whole building is outside the plot, see 4 above.

Care will be needed to find all the dwellings in your plot, particularly where the building is used partly for residential purposes and partly for other uses and also where there is more than one dwelling in the building. In all buildings which appear to be used only for non-residential purposes you must make quite sure they contain no dwelling. Be on the alert for flats in factories, offices, warehouses etc., which may be occupied by a caretaker or a watchman and also for flats over shops or garages or at the back of buildings which could be easily missed.

In buildings which contain more than one dwelling, carry out your check in an orderly manner wherever possible, starting either on the top floor or the bottom floor, taking care to check on the basement if there is one. You should be sure that every room in the building is either part of a dwelling that you have recorded or that it is not part of any dwelling (for example business premises or a common staircase or landing). Always check premises at the back of, or attached to, the main building. In identifying a dwelling you should follow strictly

the rules which were given to the original enumerator to decide what constituted a separate dwelling.

6. Households

The information concerning households, rooms and persons should be checked by interviewing the head of the household or whoever signed the schedule. If this person is not present when you call then interview any adult member of the household who is willing to assist (see Introduction above) and record in the 'Remarks' column the name of the person you talk to. Check that the name of the head of every household that you find is the same as that entered in Column 5. If so, put a tick in Column 5. If a household you find does not appear in Column 5, check to be sure that the household is actually different, not merely that another person is being described as the head of a household which is recorded. If the apparently missed household that you find was present on Census night, then make an entry in Part B as follows:

- Columns 1, 2, 3. Enter details as given in Part A (if correct)
- Column 4. Enter name of head of household
- Column 5. Enter the number of rooms occupied by the household. Check that this does not alter other figures of rooms in shared dwellings.
- Column 6. Enter the names of all the persons who were present in the household on Census night including visitors. Write "(v)" after the names of any visitors.
- Column 7. Enter the number of persons who were present in the household on Census night.
- Column 8 (Remarks). Note any circumstances which may have led to the household being missed on the original enumeration.

You should complete an E.10 or W.10 schedule for every household that was not enumerated.

If the household you find was not present on Census night but has replaced a household that was present, check as many of the particulars of the latter household as you can from the present occupiers or neighbours and make an entry in Column 11 in a form similar to the following:

"Line 27 Cols.5-10. Information about household on line x of Part A was checked from Mr. A. who now occupies this space having moved in on (date)"

This assumes that the household was in fact entered in Part A; if this was not so then make a full entry in Part B but record the source of your information in Column 8.

Remember that a household that was present both before and after the Census may have been away temporarily on Census night and may, properly, not have been enumerated. Any such households should not be regarded as having been missed. These should have been listed as "Occupier Absent" in Part A. If not, make such an entry in Part B.

If the information you obtain from the present occupier differs from that given in Part A, make an amending entry in Part B and state the source of your information.

If the dwelling is vacant when you call write in the "Remarks" section:

"Line x Col.5-10. The information about the household on line x of Part A could not be checked".

Always check as much of the information in Part A as you can. You may, for example, be able to check the number of persons in a household even if you cannot check their names. If you can only make an incomplete check, then make a "Note" entry in Column 11 as above, referring only to the items which you could not check.

Be sure that you do not include any lodgers with the main household, or otherwise include members of more than one household in the same household. You should be particularly careful

on this point as it is important to know not only how accurate is the census count of persons but also the accuracy of the census count of households. Visitors should be treated as part of the household but marked "(V)".

7. Rooms

Check that the number of rooms occupied by each household given in Column 6 of Part A is correct. If it is, put a tick in Column 6; if not, write the correct number in Column 6 and put a note in Column 11 of the likely reason for the error in the original room count. (Make sure that the definition of a room in paragraph 28 of the Enumerator's Instruction Book has been strictly applied).

If any rooms are shown as shared (sometimes denoted by a fractional number in Column 6) then check that account has been taken of the sharing in the room counts of all the households who share the room(s). Where a dwelling is shared by more than one household always ask whether any rooms are shared.

Always ask the householder if there were any vacant living rooms in the dwelling on Census night which were not occupied by anyone as their usual residence (e.g. rooms available for letting). Any such rooms should have been entered on a separate line in Part A; if there is no such entry, make an entry for them in Part B.

8. Persons

Check the names of the persons listed in Column 8 as being present on Census night. Do this by asking the person you are interviewing to give you the names of the persons who were actually present at midnight on Census night or who arrived the next day not having been enumerated elsewhere. Tick each name on your list as it is mentioned. You may prompt by asking whether there was anybody else present, whether there were any visitors, and by reading through the list of names already mentioned by the person you are interviewing, but you must not on any account mention any person on your list by name whom the respondent has not already mentioned or even that any additional person was enumerated at the Census (this is to safeguard the confidentiality of the original return).

If any person is reported who is not mentioned in Part A, then check that they were either present on Census night or arrived the next day without having been enumerated elsewhere and if so make an entry in the "Remarks" section in the form "Line 1 Column 8 Add 'James Smith'" and add a note of the likely reason for the person(s) being omitted.

Make a similar entry (with "Delete" instead of 'Add') for anyone who was enumerated when they should not have been (e.g. anyone who arrived the next day and who had been enumerated elsewhere, a baby born after midnight on Census night, or a person who was a member of the household but was temporarily away on Census night).

When you have checked the list of names, check that the total number of names agrees with the number entered in Column 9. If the number does agree, then put a tick in Column 9, and if it does not agree put the correct number in Column 9.

For households that were originally enumerated on a 10 per cent (E.10, W.10 or C.10) schedule also check the names of the persons who were usually resident members of the household but who were temporarily away on Census night as entered in Column 10, and take similar action to that for the names of ordinary members of the household for any errors that you may find. There is no number check on the absent persons, but you should note in the "Remarks" column any persons who were entered in Part III of an E.10, W.10 or C.10 though they should have been entered in Parts I and II.

You should complete a line of the appropriate type of Schedule for each person you find who was not enumerated.

C. QUALITY CHECK

Introduction

The quality check is to be made on all the households in your plot which were enumerated on a 10 per cent schedule and one of the households enumerated on a 90 per cent schedule. Form PES.2 will tell you which these are. You will be responsible for this quality check as well as the coverage check in your plot.

The purpose of the quality check is to test the accuracy of the answers that have been given on the Census schedules. Errors or omissions may have been made either from misunderstanding of what was wanted, or from lapse of memory, or there may have been inaccurate or inadequate answers. Particulars from the schedules relating to a small sample of households are to be checked by interviewing the individuals concerned, and this will enable an assessment to be made of the reliability of the answers as a whole.

The survey is not intended to obtain additional information. The survey questions cover the same topics as the Census questions and are designed to bring out the same information. They are mostly in a form capable of answer "yes" or "no".

The purpose throughout is to discover, by going over the answers that have been given, how far the Census questions have been clearly expressed and have got their meaning across.

Order of checking

You should if possible carry out the quality check as you go round your plot making the coverage check. You should record on the top of the Housing Questionnaire (Form PES.2) in the space marked "Order of interview" the order in which you make the quality checks.

Questionnaires

For each household which you are to interview, you will be issued with

- (a) a housing questionnaire (Form PES.2)
- (b) a personal questionnaire for each person who was originally enumerated in that household, or who was recorded as an absent member (Form PES.3).

If in the course of your coverage check you have discovered that a member of the household was missed on the original enumeration, you should not include this person in the quality check.

You should first complete the housing questionnaire which deals with the tenure and household arrangements questions on the schedule and then go on to complete a personal questionnaire for each of the persons enumerated on the schedule. These questionnaires will already contain the answers which appeared on the original schedule and you must be on the alert to spot any apparent discrepancy which arises between the original answer and the ones which you have now obtained on the questionnaire. When such an apparent discrepancy arises you must first confirm the answer you have just been given. Then you should tell the respondent what the original reply was and try to find an explanation for the discrepancy and enter this explanation in the 'Remarks' section which appears with every section on the questionnaires. This questioning to explain a discrepancy should be carried out with tact and you must avoid any criticism of the individuals concerned. You should ask the respondent for his comments on the discrepancy and what he found confusing or did not fully understand.

Interviewing procedure

You should carry out your quality check interview with the head of the household or the acting head who signed the original schedule unless this person will not be available within the period allowed for the completion of this check in which case you should endeavour to interview each adult member of the household with respect to the information concerning himself and any children for whom he may be responsible (see Part A above). You should encourage the head of the household to bring each person concerned into the interview but if he does not take up your suggestion you must not press it. When discrepancies arise it will probably be necessary to remind the person of the information on the original schedule. Such information can be revealed to the head of the household and to the individual concerned, but not to anyone else.

It may turn out that some members of the household are willing to answer the survey but others are not. These latter should not be included, the survey being confined to those who are willing. If having started, anyone does not want to go through with the questions, and reasonable persuasion does not prevail, the interviewer should not press the matter further but should hand in the results obtained.

Confidential Returns

Some of the persons in the households included in the quality check may have made separate confidential returns. In such cases the personal questionnaire supplied to you will be blank apart from the name and relationship to head of the household. You must not attempt to check any other particulars. But if the person concerned volunteers to give the information and the interview can be conducted in privacy, you should not refuse to complete the form.

Time reference

The Census schedule relates to the circumstances of the household on Census night. You should be careful to ensure that the replies to the questionnaire relate to the same time - not to the time when you are making the quality check.

Background knowledge

You should be quite familiar with the original Census questions, with the notes which applied to the schedule and were issued with the schedule and also the notes which appear in Appendices A and B of the Enumerator's Instruction Book as indicated under each section. Additional notes appear below on most of the sections but unless there is a note to the contrary you must assume that the original notes apply to each question and those which appear below are merely supplementary to those notes. One possible source of discrepancy is that the schedule was originally completed without the notes having been read and if there is a discrepancy you should find out whether this did happen in this instance.

Information already received

The questions have been framed to obtain certain information irrespective of what information may have been revealed as a result of the questions asked under earlier sections. If the answer to a particular question has already been provided by the respondent there is no need to repeat the question, but you must write the answer in the correct space, first checking the answer with the respondent. For example, if the respondent has already told you she is the wife of the head of the household (in reply to the relationship question) there is no need to ask her if she has ever married (Form PES.3 question 5(i)). You should enter "Yes" as the answer to that part of the question and then continue with the other parts of the question. There will be other instances where you can avoid duplication which might irritate the respondent.

Notes on the questionnaires (Forms PES.2 & 3)

I. Housing Questionnaire (PES.2)

(The numbers of the notes quoted below refer to the notes on the schedules)

L. Tenure (PES.2, questions 1, 2 & 3)

1. See Note 9 and Appendix A to Enumerator's Instruction Book.
2. Note that the original question was so worded as to make it possible for a person to reply "Yes" to more than one category.

M. Household arrangements (PES.2, questions 4 to 8)

1. See Note 10.
2. You should note that the question refers to the use of these arrangements within the building, not the accommodation of the household or the dwelling. For example a block of flats may have bathrooms and waterclosets in a separate section on each floor for the use of all the flats on that floor. The households in these flats should be returned as "sharing" or having "sole use" of these facilities, not as being without them.

3. If a household is returned as having exclusive use of a W.C. it is likely that they have exclusive use of a cold water tap and any other answer should be carefully checked.

4. A cold water tap may be connected to a private reservoir or supply tank filled from a well or natural source of water; it need not necessarily be connected to a mains water supply.

5. If a household is returned as having no cold water tap then be sure that the tap that they do use is outside the building. If it turns out to be within the building then the answer should have been "shared" or "sole use". Similarly if a household claims not to have the use of a hot water tap and when asked where they obtain their hot water, report that they fill a pan, kettle, etc. from a neighbour's supply then, if that neighbour lives in the same building, the hot water tap should have been returned as "shared".

6. You will notice that the question on the Census schedule related to a W.C. in the building or attached to it. Nevertheless if the W.C. forms part of out-buildings which are structurally attached to the main building it can be regarded as being attached to the building even though there may not be a common wall between the W.C. and the main building. If a household is returned as having no W.C., you should try tactfully to ascertain whether the question has been properly understood. In a dwelling occupied by more than one household the correct answer could well be "shared". This is important where the answer is unexpected in view of the nature of the area assigned to you.

7. Apart from the above points, try to ensure that the arrangements conform to the descriptions and limits which appear in the notes to the original schedule.

II. Personal Questionnaire (Form PES.3)

B. Relationship (PES.3, question 1)

1. The relationship should have been recorded to the head of the household. The wife of a boarder should have been returned as "Boarder's wife", but she may in fact have been entered as "wife".

2. If a husband and wife were both present or both absent on Census night they should have been entered on successive lines of the schedule and if you find this has not been done (the personal questionnaires are numbered successively in the order in which the persons were entered on the schedule) then you should make a note to this effect in the "Remarks" space for this question.

3. If, when you examine the entries copied from the schedule, it is not clear which children belong to which parents (more than one set of grandchildren with the same surname could produce such confusion) then you should number the sets of parents and number the grandchildren with the same numbers as their parents.

C. Usual Residence (PES.3, question 2)

1. See Note 2 and Appendix A to Enumerator's Instruction Book.

2. If it appears that a person who has given a number of addresses does not work from one of them, or does not spend most weekends at one of them, then the list of addresses may be incomplete and you should enquire whether all the addresses that the respondent would regard as his residences have been stated.

3. As long as the address which was returned on the schedule as the person's usual residence is included in the list of addresses which you have been given there is not necessarily any discrepancy. If the address returned on the Census schedule does not appear then you should ask for the reason.

N. Change of address, etc. (PES.3, question 3)

1. See Note 11 and Appendix A to Enumerator's Instruction Book.

2. When asking this question, frame it with regard to the nature of the dwelling. Thus if the house is clearly one completed within the last year or two, adults will not have lived there since birth.

3. A baby who was born in a hospital etc., but having then lived at the address where his mother was usually resident at his birth ever since, should be regarded as "since birth".

4. For computing the date when a person moved to his present usual residence, wartime moves (such as those mentioned in Note 11 of the notes to the schedule) should be disregarded providing that the address was the same before the wartime move as it was after. If the respondent moved to a different address when he returned after the war or National Service, then the date of moving to the present address should be the date he actually went there, and the previous address should be the one which he left before his National Service.

D. Sex and Age (PES.3, question 4)

1. See Note 3.

2. If the sex does not appear on the original schedule, or if it has been entered wrongly then enter the correct answer in the "Remarks" section. It should not be necessary to ask a special question to be able to do this, except in the case of babies.

3. The age on the schedule is in years and months which will give limits to the expected date of births:- for example, a stated age of 57 years 3 months implies a date of birth between 24th January and 23rd February 1904. The limits which are implied by the stated age should be pencilled on the questionnaire before you start the interview to enable you to know at once if there is an apparent discrepancy for which you have to find the reason. Errors in the age statement may arise from a number of causes such as "rounding" ages to certain numbers and also taking the age as it will be next birthday instead of the age last birthday as instructed on the schedule.

E.F.G.H. Marriage, etc. and number of children (PES.3, question 5)

1. See Notes 4, 5 and 6.

2. The sum of the replies to both the questions at 5(v) and 5(vi) should be the same as the answer to question F(i) on the schedule.

3. Remember that the questions refer, as did the Census question, to children who were born alive and who were born in marriage, quite irrespective of whether they were still alive by Census day. There may be a tendency to omit children who have died, particularly if they died when they were very young.

4. If you are specifically told of children not born in marriage, you should count them in the total, but note the fact in the "Remarks" section. On no account should you make any reference to children not born in marriage when you are asking your questions.

K. Citizenship or nationality (PES.3, question 7)

1. See Note 8 and Appendix A to Enumerator's Instruction Book.

2. This is rather a complicated subject, and you should make the fullest possible use of the "Remarks" section, to give as much detail as possible in instances where there appears to be some doubt.

3. The term "Citizen of the United Kingdom and Colonies" may not be readily used or understood by the respondent. If the respondent uses the term "British" you should first ask whether he is a British Subject and if he is you should explain that he is then either a Citizen of the United Kingdom and Colonies or a citizen of another Commonwealth country. If he still uses the term "British" you should adapt and augment the questions on the questionnaire as follows:

Did you become a citizen because

you were born in -----?	Yes/No
(name the country of birth given in answer to question 6)	

your father was British?	Yes/No - if "Yes", where was your father born?
your husband was British?	Yes/No - if "Yes", where was your husband born?
you have been naturalised?	Yes/No - if "Yes", where were you naturalised?

If none of these, how did you become a British citizen?

The answer to the supplementary question on place of birth or naturalisation should be entered in the "Remarks" section.

4. Citizenship of the United Kingdom and Colonies can be acquired by marriage only by women.

5. Be careful to distinguish between colonies and the self-governing members of the Commonwealth who are listed in Appendix A of the Enumerator's Instruction Book.

6. As regards nationality, you should record the reply of the country stated even though you may know that the country is no longer a separate sovereign state.

O. Terminal Education Age (PES.3, question 8)

1. See Note 12 and Appendix A to Enumerator's Instruction Book.

2. If the respondent is being educated full time, there should be no entry in section R and S of the schedule. If there was such an entry you should confirm that the respondent was in fact in full time education and if this is the case there is an apparent discrepancy in the R.S.T. section which should be noted and explained there. If the circumstances are not clear cut, make an appropriate comment in the Remarks column.

Q. Scientific Qualifications (PES.3, question 9)

See Note 13 and Appendix A to Enumerator's Instruction Book.

R.S.T. General Economic Status (PES.3, questions 10 to 17)

1. See Notes 14, 16, and 17 and Appendix B to Enumerator's Instruction Book.

2. This section is also likely to be fairly complicated and you should be sure that you understand the notes on the schedule and in the Enumerator's Instruction Book as well as the Census questions. The respondent should answer "Yes" to question 10(i) if he had any job during the week before Census day no matter how small a job it was and irrespective of whether it was a full time or part time job and of whether it was casual or not.

3. For a person to be "temporarily laid off", he must have a job ready for him to go back to. You should be on the alert for the use of the term "laid off" when in fact the person is out of employment.

4. It is essential that when you are asking the questions about the employer, place of work, business, occupation, apprenticeship, and part time or full time, both you and the respondent should be absolutely clear as to what employment you are dealing with. The questions on change of employment during the week and main and subsidiary employments should help to clarify this point.

5. If the respondent does not regard one of his employments as the main or usual one and therefore gives further details relating to more than one employment, yet nevertheless gave details of only one employment on the schedule you should find out and record how he selected one employment when the Census schedule was being completed.

6. The term "out of employment" always implies that the person concerned is expecting to obtain work. A person who is incapacitated and does not expect to return to work should not be regarded as out of employment but as retired.

7. When a person says he is "sick and expecting to return to work" you should check whether he still has a job. If he has, the answer to question 10(i) should have been "Yes" and you should correct this reply and thereafter treat them as if they had replied "Yes".

Employer (FES.3, question 11)

1. See Notes 20 and 23 and Appendix B to Enumerator's Instruction Book.
2. In cases where there is uncertainty as to whether a person is self employed or not, the Insurance categories noted in Appendix B of the Enumerator's Instruction Book may be of help.
3. The only persons whom a person may employ and still be regarded as without employees are persons who are relatives and who live in the same household and who should therefore have been included on the same schedule as the person concerned.
4. Persons in private domestic service may have more than one employer, and if this is the case then enter "several employers" instead of the name of the employer.

Place of work (PES.3, question 12)

1. See Note 24 and Appendix B to Enumerator's Instruction Book.
2. For dock workers you should read carefully Note 24 on the schedule.
3. One type of error you should be prepared for in replies to this question is the quoting of the head office or headquarters of a firm or other employer instead of a local office, depot or works. In the case of sales representatives, drivers and other mobile workers, pay special attention to Note 24.
4. You should compare the address given in answer to question 2 as the address from which the person goes to work with the address given for the place of work. These two are likely to be within reasonable travelling distance of each other. There are a few people who travel considerable distances to work, but you should always check that this is the case when you cannot find two addresses that fit reasonably well from this point of view.

Business (PES.3, question 13)

1. See Note 19 and Appendices B and C to Enumerator's Instruction Book.
2. Be sure that the respondent tells you the business of his employer at the establishment where the respondent worked during the week before Census day. Do not assume that an employer whose main business is well known carried on that activity at every establishment.
3. The items listed in Note 19 and also "Textile Industry" and "Clothing Trade" are not definite enough on their own and if the respondent gives these, ask for further details.
4. If the schedule entry was "Private" confirm whether or not the employment was purely private or was connected with the main business of the employer.

Occupation (PES.3, question 14)

1. See Note 21 and Appendix B to the Enumerator's Instruction Book.
2. This section is likely to need particular care, as past experience has shown that these questions are specially difficult to answer.
3. One important point is that the actual occupation during the week before Census day (or in last full time employment where appropriate) is required irrespective of any qualifications or trade skills which the respondent may have e.g. a skilled craftsman who was labouring during the week before Census day should answer "labourer" and not the name of his skilled craft. You may sometimes be able to spot this type of misunderstanding by comparing the occupation with the business of the employer; if the combination seems unlikely you should check that both statements are correct and that they refer to the same employment and the same period of time. You are likely to meet unusual combinations in this way but you should always check them.

4. Question 14(ii) is intended to prompt the respondent into describing in his own words what kind of work he does. From this description you should complete the check lists shown on the questionnaire, first ticking one of the broad categories (manual worker, non-manual worker etc.) and then ticking one of the items in the appropriate secondary list (two lists in the case of manual workers). If the description that the respondent gives you does not enable you to complete these check lists, then you should ask further questions to enable you to do so.

5. In addition to completing the check lists, you should write in the answer space to question 14(ii) a short summary description of the description you have been given, and a note of any difficulties which arose in completing the check lists.

6. If the name of the occupation enables you to complete the check lists and is self explanatory as to the nature of the work done (e.g. Medical Practitioner - non-manual, professional; Shorthand typist - non-manual, clerical) then there is no need to actually ask question 14(ii) and you need merely complete the check lists, but the answers ringed should be confirmed by the respondent.

7. It is clearly impossible to devise stock questions which will suit all circumstances and to a large extent you have been left to adapt your approach to the different situations. You should note and record any technical terms which the respondent uses in describing his job.

8. Check that the replies given by the respondent are not too vague. (See Note 21 for examples of vague descriptions and "fitter" is another.) If when you have finished the questions you are not clear at least as to the general nature of the work which the respondent performs, then it is likely that you have not been given a full description and you should try to clear up the position. Additional information which does not fit into the framework of the set questions should be added in the "Remarks" section.

9. Civil Servants and other public officials should tell you their rank and the branch and department in which they serve. If you obtain these details there is no need to obtain the precise name of the job they actually perform.

10. You should ask weekly paid coalmine workers for the reference number and agreed job name in the "National Schedule of Occupations and Job Descriptions". This applies to all such employees of the National Coal Board who are not in managerial, professional or clerical posts. Enter the reply in the "Remarks" section.

11. For persons who say they are occupied as private domestic servants, check that no business (other than "private") has been given in question 13. If such a business has been entered, check that the respondent is employed in connection with that business and not purely privately.

Apprenticeship etc. (PES.3, question 15)

1. See Note 22.

2. A person returned as an apprentice, articulated pupil etc., should answer "Yes" to both parts of this question and also "Yes" to one of the possible types of formal recognition.

Part time - full time (PES.3, question 16)

1. See Note 15 and Appendix B to Enumerator's Instruction Book.

2. The point of reference is again the week before Census day unless that week was interrupted in one of the ways mentioned in Note 15.

3. Persons who have more than one occupation which together make up full time employment should answer these questions in respect of the employment returned in the sections dealing with Business, Occupation etc., even if the schedule answer was "part time" for that employment. If more than one has been returned in these sections (because the respondent was unable to decide which was the "main" one) then the questions should be answered in respect of each of the occupations in turn. The additional answers should be written in the "Remarks" section.

4. If the respondent is engaged in domestic service for more than one employer, then you need only find out the total hours worked for all employers combined.

Business of last full time employer, occupation etc. (PES.3, question 17)

Persons who are currently in a part time job, as well as those who are out of employment or retired at the end of the week before Census day, should be asked the questions about the employer, business and occupation in respect of their last full time employment. The notes and instructions are the same as those which appear above the relevant sections but refer to the last full time employment and not to the week before Census day.

PART III (Schedule E.10, W.10 or C.10)

See Note 25.

CHAPTER 2

The Ten Per Cent Sample

Introduction

The 1961 Census was the second census in which sampling methods were used for the tabulation of some information. In 1951, an advance tabulation of one per cent of the population had been made to provide advance summary tables. This one per cent sample was selected by the enumerators from the completed schedules for the whole population.

In 1961 it was decided not to provide advance summary tables based on a small sample. The 1951 sample had delayed the production of the main census figures and because it was produced first contained a relatively high proportion of processing errors. In 1961 it was hoped that by confining the tabulations relating to occupation and industry to 10 per cent, and by the developments in the advance planning of the census compared with 1951, it would be possible to produce the main results much more quickly than had been possible after the 1951 Census.

The information selected for sample tabulation was mainly the information relating to occupation, industry and migration, where it was expected that the main interest would be in national or regional information or where relatively complex coding was called for. It was hoped that the use of a computer would facilitate achievement of this objective. It was, therefore, a disappointment that these hopes for 1961 were not fulfilled; that although the manual coding and similar processes were performed more quickly than expected, the computer produced results much more slowly than expected and indeed became the main bottleneck. (See page 12).

Having decided that certain information would be processed on a sample basis, the question then had to be settled of whether this information could be collected on a sample basis. If only a proportion of the information was to be used, it seemed unreasonable, if a satisfactory method of sampling at the enumeration stage could be derived, to put the rest of the population to the trouble of providing information which would never be used. It was therefore decided to collect this information on a sample basis only.

Examination of the proposed tabulations led to the decision that a 10 per cent sample would suffice. A one per cent sample was clearly too small to provide usable figures to the detail needed.

Method of sampling

The sampling was carried out in different ways in private and non-private households. In private households two types of form were used. The first was the E.90 form (W.90 in Wales) which contained only those questions which were being put to everyone. This information included the information about tenure and household arrangements and the personal questions relating to relationship, usual residence, sex, age, marital condition, fertility, birthplace and nationality. This form was issued to 9 in every 10 private households. The E.10 form (W.10 in Wales) contained all the questions included on the E.90 form and, in addition, questions on migration, education, scientific and technological qualifications and present or former occupation and industry. The E.10 form also included a section for people who usually lived in the household but who were away on census night. This sample schedule was to be issued to one household in every ten.

The distribution of these types of form was arranged in the following way. England and Wales was divided into some 70,000 enumeration districts. These enumeration districts were listed systematically and a random number, which varied between one and ten, was taken serially from a table of random numbers and allocated to each enumeration district. If this number was n then the enumerator was told to give a sample schedule to the n , $(10 + n)$ th, $(20 + n)$ th, etc., households which he contacted. The enumerator was issued with a pack of schedules in which the sample schedules were already placed in every tenth position. The random start was obtained by the census officer removing schedules from the top of the pack until the first sample schedule was in the n th position. The enumerator was then instructed to deliver the schedules from the top of the pack to the households strictly in the order in which he contacted them.

People in non-private households such as institutions, hotels, ships, etc., were not enumerated on the ordinary household schedule but on other special schedules. The size of these institutions varied too much for a sample of the institutions to give reliable figures and it was therefore decided that in non-private households the sample should be of individuals. This was achieved by asking the sample question only of the person appearing on a specified line on each of the special schedules. The sample lines were also designated randomly and the person completing the schedule was told to maintain a strict routine when entering the names on the schedule and to avoid any pre-selection of the people for whom the additional sample details would be required.

The sample of people enumerated in Defence establishments was selected at census headquarters. There was no sampling at the enumeration stage.

Bias in the sample

The method of sampling at the enumeration stage, which has been described above, had to be introduced into the 1961 Census without any pre-test. It was anticipated that there was a clear possibility that the scheme might not operate exactly as it had been designed and plans were therefore made to test the validity of the sample as finally selected.

The tests on the validity of the sample were of two kinds. The first of these aimed to check if there was any bias present in an individual enumeration district or local authority area, while the second aimed to check whether significant bias existed in figures produced at the national level.

Enumeration check on bias

At the enumeration district level a check was made to ensure that the ten per cent sample was an unbiased sample from the full count in that enumeration district. During the running of the first hundred per cent compilation programmes, a few summary figures were extracted for each enumeration district. The information extracted included the numbers of private households, the total number of people in private households and total people in each enumeration district who had been enumerated on ten per cent schedules and on ninety per cent schedules. The difference between the actual number of persons or households in the sample and the expected number (i.e. one-tenth of the whole count) was then tested to see if it was significant. Details of the significance test used are given in Appendix 2A to this chapter (pages 100 and 101).

When an enumeration district was rejected, the district concerned was checked for irregularity in the sample selection by means of an examination of the Enumeration Record Book (E2). A number of departures from the intended sampling scheme were found.

One feature which occurred was "drop-out". This occurred when a schedule was delivered but not collected because the household had moved or had been enumerated elsewhere. This feature would tend to occur in areas with a high proportion of lodgers. The same phenomenon could also occur after the conversion of a private household to a boarding-house following the processing convention that a household with five or more boarders should be treated as a boarding-house, i.e. a non-private household. These drop-outs would disturb the relationship of sample to non-sample schedules, particularly if the household dropping-out was a ten per cent household. Conversely, schedules could "drop-in"; that is schedules could be added which the enumerator did not originally deliver. Among the circumstances giving rise to this event was the issue of schedules by the census officer, which were handed in to the enumerator or added into the schedules for the district by the census officer, or the handing in of a schedule by the head of a household who had moved from some other area where the schedule had been issued. A faultily sorted pack could disturb the ratio of sample to non-sample schedules and so could any mishap leading to a disarranging of the schedules. If an enumerator exhausted his pack as issued and completed his enumeration by issuing his spare schedules (which were not sorted) this would naturally have a markedly disturbing effect. When those enumeration districts where the actual numbers in the sample differed greatly from the number expected were examined, a number of these features were quite evident from an examination of the order in which the schedules had been delivered. Among the relatively small number of enumeration districts actually examined, in about half the issue was apparently made correctly while in the others minor irregularities often occurred, such as small departures from the sequence of the issue or the issue of sample schedules more frequently to households where the occupier was absent than was justified.

Table 2 gives summary results for the counties of England and Wales. On the whole, just over two per cent of the enumeration districts were rejected for examination having failed the criteria used. Only in about nine per cent of these failures, however, was the ratio for persons 12.25 or more (i.e. the difference was more than three times the standard error or there was a probability of only one in 250 that such a difference would have arisen by chance). On the whole, these results did not give much cause for alarm though the marked bias of the distribution which shows a preponderance of enumeration districts where the sample of persons was too large was remarkable. No size distribution can be given for the figures for households since the numbers in the table represent only those enumeration districts where the number of households was beyond the arbitrary limits described in Appendix 2A.

National comparisons

The other line of approach for checking the bias was to make comparisons at the England and Wales level for certain characteristics which had been tabulated on both the full count and the ten per cent sample bases. It was realised that the sampling variation to be expected at enumeration district and even local authority level could hide the bias which could become significant only at the national or regional level.

The comparisons made were for:-

Total population.

Sex, age and marital condition of the population.

The population in hotels and boarding-houses.

The population enumerated in other non-private households.

Private households by persons, by rooms.

Private households by tenure.

Birthplace and nationality.

The results of these comparisons were as indicated in the following paragraphs.

Bias in the total number of persons

The comparison of the total number of persons showed an excess of 214,81 or 0.5 per cent in the total sample population. This deviation gave no cause for alarm because the local variations in the effective sampling fraction at both enumeration district and local authority level was such that if they were considered as random variations, their mean could well differ from zero by half per cent without this difference being significant.

Sex, age and marital condition

The comparison for sex, age and marital condition is shown in Table 3. This table shows a systematic under-representation of old people, of the widowed and divorced population of all ages and of single males aged 25 and over. In addition there were small deficiencies of young married people and children under five years of age. In compensation, the sample contained too many married people between 30 and 70 and too many young people between the ages of 5 and 20.

The differences are much larger and more systematic than could conceivably be accounted for by chance variation. For example, the shortage of people aged 65 and over amounted to 3 per cent and of the widowed population to 4 per cent and in grossed-up terms the former amounted to 180 thousand and the latter to 120 thousand.

Hotels and boarding-houses

A comparison of the various categories of population enumerated in hotels and boarding-houses, included in the full count and in the ten per cent sample is shown in Table 4.

In grossed-up terms there was a net deficiency in the sample of some 29 thousand people (8 per cent) in hotels and boarding-houses. This net deficiency was made up of a surplus of managers, staff and their relatives of about 6 thousand and a deficiency in the number of guests of some 35 thousand or 15 per cent. Among the guests the deficiency is clearly worse for resident guests where it amounted to 19 per cent than for visitor guests where the deficiency was 11 per cent. These results certainly suggest some replacement of guests in hotels by staff as far as inclusion in the sample is concerned.

Table 2 Comparison of full count and sample:
Ordinary Enumeration Districts with excess or deficiency in sample of
(a) households (b) persons in private households (c) total persons

Number of O.E.Ds. with significant difference between full count and sample																						
County	Total number of O.E.Ds. and parts	Comparison of households				Comparison of persons in private households								Comparison of total persons								
		Total	Too few in sample	Too many in sample	Total	Too few in sample, value of ratio -				Too many in sample, value of ratio -				Total	Too few in sample, value of ratio -				Too many in sample, value of ratio -			
						12.25 or more	9.00 to 12.249	6.25 to 8.99	12.25 or more	9.00 to 12.249	6.25 to 8.99	12.25 or more	9.00 to 12.249		6.25 to 8.99	12.25 or more	9.00 to 12.249	6.25 to 8.99	12.25 or more			
England and Wales	71,422	744	391	363	881	14	50	103	123	310	281	133	949	15	59	118	334	290	133			
Bedfordshire	553	7	2	5	8	-	-	2	1	3	2	1	7	-	-	1	3	2	1			
Berkshire	744	10	6	4	8	-	-	2	1	1	4	1	8	-	-	2	1	4	1			
Buckinghamshire	758	18	12	6	8	1	-	2	1	1	3	1	11	1	-	3	3	3	1			
Cambridgeshire	325	4	3	3	24	-	3	-	-	12	2	-	4	-	3	1	2	2	1			
Cheshire	2,100	8	5	3	5	-	-	-	5	3	2	5	24	-	-	-	10	5	-			
Cornwall	717	7	2	5	5	-	-	-	-	3	2	-	5	-	-	-	3	2	-			
Cumberland	551	-	-	-	17	-	2	1	1	2	7	1	6	-	2	2	3	8	-			
Derbyshire	1,388	3	-	3	25	-	1	1	1	10	12	1	20	-	1	2	7	10	1			
Devonshire	1,545	8	5	3	11	-	-	2	3	3	3	3	12	-	-	2	11	5	2			
Dorset	622	13	5	8	29	-	5	3	3	6	12	3	29	-	5	3	7	10	4			
Durham	2,244	8	2	6	29	-	2	3	3	18	20	4	49	-	2	4	19	-	4			
Ely, Isle of	157	-	6	16	48	-	2	4	-	9	6	2	21	1	-	2	8	19	-			
Essex	3,218	14	10	4	23	-	1	1	1	10	6	3	28	-	1	5	12	6	3			
Gloucestershire	1,595	18	9	9	7	-	2	-	1	3	1	1	7	-	2	-	3	2	-			
Hampshire	1,935	56	29	27	82	1	3	6	14	33	25	14	37	1	4	9	14	10	6			
Herefordshire	390	2	5	3	15	-	-	2	3	6	3	3	15	-	-	2	3	3	-			
Hertfordshire	1,126	8	-	2	38	1	-	-	-	14	9	6	37	-	2	-	14	27	-			
Huntingdonshire	160	-	6	7	-	-	3	6	-	33	25	17	88	1	4	9	35	27	12			
Kent	2,470	13	6	27	7	-	3	-	-	3	3	3	11	-	2	-	3	4	1			
Lancashire	7,147	56	29	27	82	1	3	6	14	33	25	14	37	1	4	9	14	10	6			
Leicestershire	1,080	5	2	3	10	-	-	1	1	5	5	1	11	-	2	-	4	4	1			
Lincolnshire (Holland)	180	-	-	-	2	-	-	-	-	1	1	-	3	-	-	-	2	1	-			
Lincolnshire (Kesteven)	277	4	3	1	6	-	-	1	1	1	3	1	3	-	-	1	1	2	-			
Lincolnshire (Lindsey)	988	3	-	3	10	-	1	1	1	4	3	3	10	-	1	1	4	3	1			
London	4,655	196	111	85	73	2	3	11	17	22	18	17	79	2	3	11	24	25	14			
Middlesex	2,968	39	18	21	26	1	1	4	7	7	6	7	34	1	4	6	8	6	9			
Norfolk	1,120	8	2	6	15	-	2	2	4	5	2	4	14	-	2	2	4	2	4			
Northamptonshire	707	-	-	-	8	-	-	2	1	2	3	1	9	-	-	3	4	3	1			
Northumberland	1,300	7	2	5	15	-	-	3	3	4	7	-	17	1	-	4	5	7	-			
Nottinghamshire	1,399	11	8	3	19	1	1	3	5	6	5	3	21	1	1	4	5	7	3			
Oxfordshire	532	6	3	3	12	-	2	3	-	5	2	-	16	-	2	4	6	3	1			
Peterborough, Soke of	111	2	-	2	1	-	-	-	-	1	1	-	1	-	-	-	1	-	-			
Rutland	73	2	-	-	1	-	-	-	-	-	-	-	1	-	-	-	1	-	-			
Shropshire	639	2	2	-	10	-	3	-	1	2	9	1	10	-	3	-	2	3	1			
Somerset	1,122	10	6	4	17	1	1	1	1	4	9	1	20	1	1	1	7	9	1			
Staffordshire	2,464	9	6	3	31	1	-	6	3	11	10	3	32	1	2	5	11	10	3			
Suffolk, East	668	1	-	1	8	-	-	3	4	-	1	4	8	-	-	3	-	2	5			
Suffolk, West	288	2	1	1	-	-	-	3	-	-	8	-	1	-	1	-	-	7	-			
Surrey	2,308	31	16	15	23	-	2	3	8	8	10	2	24	-	3	2	10	7	6			
Sussex, East and West	1,764	38	22	16	26	-	-	1	3	12	10	3	30	-	-	3	13	8	2			

Warwickshire	2,728	34	20	14	33	-	-	5	12	10	6	37	-	2	4	16	9	6
Westmorland	188	2	1	1	2	-	-	-	-	2	-	3	-	-	-	1	2	-
Wight, Isle of	144	2	1	1	1	-	-	-	-	-	1	2	-	-	-	-	-	2
Wiltshire	762	9	4	5	11	1	-	3	4	2	1	12	1	1	2	6	2	1
Worcestershire	926	7	3	4	9	-	-	-	3	5	1	10	-	1	-	2	6	1
Yorkshire East Riding	816	6	2	4	12	-	-	1	2	3	2	11	-	2	2	1	2	4
Yorkshire North Riding	1,160	6	3	3	13	-	-	3	8	2	-	13	-	-	3	6	3	1
Yorkshire West Riding	5,428	46	21	25	66	2	2	6	26	20	8	70	2	3	7	27	19	12
Anglesey	124	1	-	1	3	-	-	-	1	2	-	3	-	-	-	1	2	-
Breconshire	175	3	1	2	2	-	-	-	1	1	-	2	-	-	-	1	1	-
Caernarvonshire	256	3	2	2	3	-	-	-	2	1	-	2	-	-	2	1	1	-
Cardiganshire	186	4	2	3	1	-	-	1	2	1	-	4	-	-	2	2	-	-
Carmarthenshire	391	1	-	1	2	-	-	-	-	-	1	2	-	1	-	-	-	1
Denbighshire	357	2	2	-	3	-	-	-	1	1	-	3	-	1	-	1	1	-
Flintshire	271	3	2	1	4	-	-	-	2	1	-	3	-	1	-	1	1	-
Glamorganshire	1,721	12	6	6	15	2	2	3	4	4	1	16	2	1	3	5	4	1
Merionethshire	145	2	1	1	1	-	-	-	-	1	-	2	2	-	-	1	1	-
Monmouthshire	703	4	2	2	5	-	-	-	1	4	-	5	-	-	-	1	4	-
Montgomeryshire	181	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Pembrokeshire	273	2	1	1	6	-	-	-	2	2	2	-	-	-	-	3	1	2
Radnorshire	101	-	-	-	2	-	-	-	1	1	-	2	-	-	-	1	1	-

Table 3 Comparison of full count and sample:
Persons by sex, age and marital condition

Age last birthday (five year groups)	Full count					10 per cent sample					Difference (10 per cent - one tenth of full count)					Difference as percentage of one tenth of full count					
	Total	Single	Married	Widowed	Divorced	Total	Single	Married	Widowed	Divorced	Total	Single	Married	Widowed	Divorced	Total	Single	Married	Widowed	Divorced	
Persons																					
Males																					
All ages	46,104,548	18,980,248	23,673,409	3,186,031	264,860	46,319,36	18,984,03	24,010,40	3,066,12	258,81	1214,81	3,78	336,99	-119,91	-6,05	0.5	0.0	1.4	-3.8	-2.3	
All ages	22,303,833	9,738,247	11,812,942	658,193	94,451	22,429,13	9,722,98	11,972,03	641,51	92,61	125,30	-15,27	159,09	-16,68	-1,84	0.6	-0.2	1.3	-2.5	-1.9	
0-4	1,846,141	1,846,141				1,843,76	1,843,76				-2,38	-2,38			-0.1	-0.1					
5-9	1,670,620	1,670,620				1,673,45	1,673,45				2,83	2,83			0.2	0.2					
10-14	1,907,303	1,907,303				1,919,62	1,919,62				12,32	12,32			0.6	0.6					
15-19	1,621,962	1,604,910	17,040	10	2	1,635,99	1,619,49	16,50	-	-	14,03	14,58	-54	-1	-0	0.9	0.9	-3.2	-100.0	-0.0	
20-24	1,434,391	1,989,661	443,938	247	545	1,427,56	989,59	437,23	19	55	-6,83	-7	-6,71	-6	1	-0.5	-0.0	-1.5	-24.0	-1.8	
25-29	1,445,983	425,643	1,015,145	1,135	4,060	1,436,66	420,06	1,011,59	1,02	3,99	-9,32	-5,58	-3,56	-12	-7	-0.6	-1.3	-0.4	-10.5	-1.7	
30-34	1,501,640	282,656	1,227,625	2,744	8,615	1,507,97	257,00	1,240,20	2,60	8,17	6,33	-5,66	12,58	-14	-45	0.4	-2.2	1.0	-5.1	-5.2	
35-39	1,616,192	213,826	1,385,178	6,164	13,024	1,629,33	208,88	1,420,04	5,85	12,56	13,14	-4,95	18,86	-31	-46	0.8	-2.3	1.4	-5.0	-3.5	
40-44	1,493,821	160,092	1,309,133	10,481	14,115	1,520,87	156,26	1,340,16	10,72	13,73	27,05	-3,83	31,03	24	-39	1.8	-2.4	2.4	-2.3	-2.8	
45-49	1,583,800	151,219	1,397,117	19,633	15,831	1,612,85	147,88	1,430,59	19,07	15,31	29,05	-3,34	33,47	-56	-52	1.8	-2.2	2.4	-2.9	-3.3	
50-54	1,575,399	139,916	1,386,171	34,345	14,967	1,611,16	137,94	1,425,23	33,21	14,78	35,76	-1,98	39,06	-1,14	-19	2.3	-1.4	2.8	-3.3	-1.3	
55-59	1,407,842	120,481	1,224,788	51,694	10,879	1,430,55	117,64	1,250,61	51,31	10,99	22,71	-2,84	25,82	-38	11	1.6	-2.4	2.1	-0.7	1.0	
60-64	1,096,306	86,933	931,128	71,721	6,524	1,109,75	84,20	947,26	71,58	6,71	13,44	-2,73	16,13	-14	19	1.2	-3.1	1.7	-0.2	2.9	
65-69	818,924	60,040	664,645	91,022	3,217	825,34	57,68	674,98	89,69	2,99	6,42	-2,36	10,34	-1,33	-23	0.8	-3.9	1.6	-1.5	-7.1	
70-74	599,580	45,618	440,073	112,268	1,621	593,87	42,14	439,51	110,50	1,72	-5,71	-3,48	-56	-1,77	10	-1.0	-7.6	-0.1	-1.6	6.2	
75-79	389,134	30,817	242,871	114,690	756	373,69	27,29	235,57	110,00	83	-15,44	-3,53	-7,30	-4,69	7	-4.0	-11.5	-3.0	-4.1	9.2	
80-84	204,621	15,780	99,673	88,944	224	194,43	14,51	93,45	86,22	25	-10,19	-1,27	-6,22	-2,72	3	-5.0	-8.0	-6.2	-3.1	13.6	
85-89	74,214	5,473	26,383	42,299	59	67,64	4,56	23,55	39,51	2	-6,57	-91	-2,83	-2,79	-4	-8.9	-16.6	-10.7	-6.6	-66.7	
90-94	14,306	986	3,674	9,636	10	13,07	89	3,32	8,85	1	-1,24	-10	-35	-79	-	-8.7	-10.1	-9.5	-8.2	-0.0	
95 and over	1,654	132	360	1,160	2	1,57	14	24	1,19	-	-8	1	-12	3	-0	-4.8	7.7	-33.3	2.6	-0.0	
Females																					
All ages	23,800,715	9,242,001	11,860,467	2,527,838	170,409	23,890,23	9,261,05	12,038,37	2,424,61	166,20	89,51	19,05	177,90	-103,23	-4,21	0.4	0.2	1.5	-4.1	-2.5	
0-4	1,750,880	1,750,880				1,746,33	1,746,33				-4,55	-4,55			-0.3	-0.3					
5-9	1,591,666	1,591,666				1,600,75	1,600,75				9,08	9,08			0.6	0.6					
10-14	1,817,861	1,817,861				1,837,21	1,837,21				19,35	19,35			1.1	1.1					
15-19	1,378,698	1,475,077	103,536	65	20	1,395,98	1,493,92	102,00	5	1	17,28	18,84	-1,54	-2	-1	1.1	1.3	-1.5	-28.6	-50.0	
20-24	1,443,898	606,998	833,643	1,336	1,921	1,440,98	609,00	828,78	1,08	2,12	-2,92	2,00	-4,86	-26	20	-0.2	0.3	-0.6	-19.4	10.4	
25-29	1,400,178	219,676	1,168,696	3,800	8,006	1,412,26	218,71	1,182,42	3,60	7,53	12,08	-97	13,72	-20	-48	0.9	-0.4	1.2	-5.3	-6.0	
30-34	1,482,675	182,238	1,297,725	8,781	13,931	1,502,62	163,52	1,316,79	8,54	13,77	19,95	1,28	19,07	-24	-16	1.3	0.8	1.5	-2.7	-1.1	
35-39	1,625,692	159,138	1,422,720	21,243	22,591	1,633,95	159,56	1,451,97	20,75	21,67	28,26	1,42	29,25	-49	-92	1.7	0.3	2.1	-2.3	-4.1	
40-44	1,549,765	149,326	1,325,147	42,118	26,174	1,580,86	150,98	1,362,52	42,11	25,25	38,10	1,65	37,37	-1	-92	2.5	1.1	2.8	-0.0	-3.5	
45-49	1,644,953	173,082	1,361,828	82,470	27,573	1,680,50	176,99	1,394,23	81,45	27,83	35,55	3,91	32,40	-1,02	26	2.2	2.3	2.4	-1.2	0.9	
50-54	1,645,693	201,525	1,280,261	139,909	24,998	1,677,33	203,01	1,312,85	137,44	24,03	31,64	1,49	32,59	-1,47	-97	1.9	0.7	2.5	-1.1	-3.9	
55-59	1,519,920	210,249	1,073,590	217,072	19,009	1,537,92	210,67	1,097,34	181,03	18,88	18,00	42	23,75	-6,04	-13	1.2	0.2	2.2	-2.8	-0.7	
60-64	1,361,772	195,535	830,230	323,030	12,977	1,365,56	193,34	840,85	318,92	12,65	3,79	-2,20	10,42	-4,11	-33	0.3	-4.1	1.3	-2.5	-2.5	
65-69	1,159,854	176,605	571,499	404,452	7,298	1,147,01	170,03	575,68	394,06	7,24	-12,84	-6,58	4,18	-10,39	-6	-1.1	-3.7	0.7	-2.6	-0.8	
70-74	942,092	145,773	345,433	447,196	3,690	907,32	137,21	339,61	427,19	3,31	-34,77	-8,56	-5,82	-20,01	-38	-3.7	-5.9	-1.7	-4.5	-10.3	
75-79	679,798	105,643	170,232	402,373	1,550	636,37	97,07	164,05	373,90	1,35	-43,43	-8,57	-6,18	-28,47	-20	-6.4	-8.1	-3.6	-7.1	-12.9	
80-84	400,510	60,847	274,826	64,341	1,495	372,08	59,77	56,34	255,54	43	-43	4,57	-4,51	-19,29	-7	-7.1	-7.1	-7.4	-7.0	-14.0	
85-89	163,569	27,420	132,712	122,712	157	150,67	24,85	11,59	114,11	12	-12,90	-2,57	-1,69	-8,60	-4	-7.9	-9.4	-12.7	-7.0	-85.0	
90-94	41,182	7,525	1,587	32,052	18	37,55	6,88	1,40	29,56	1	-3,63	-95	-19	-2,49	-	-8.8	-12.6	-11.9	-7.8	-50.0	
95 and over	7,059	1,443	213	5,403	-	6,98	1,55	15	5,28	-	-8	11	-6	-12	-	-1.1	7.6	-28.6	-2.2	-	

Part of the shortage of resident guests can be attributed to the below average issue of sample schedules to large households originally enumerated as private households but later corrected to boarding-houses under the processing convention that a household with 5 or more boarders should be treated as a boarding-house. This shortage therefore stems from the general under-representation of large households in the ten per cent sample discussed on page 79. However, the total population in hotels is still considerably deficient and this deficiency is concentrated in the resident guest group who form a very unrepresentative section of the population. This particular bias should be remembered in using tables which are based on the ten per cent sample since the bias factors described below which have been computed are based only on the population in private households and therefore take no specific account of this particular feature.

In this connection the 1961 Census provided a lesson for the 1966 ten per cent sample census. The relative failure of the sampling scheme in hotels and boarding-houses in 1961 led to the decision that in 1966 such places should be enumerated 100 per cent with later sampling in the census office. This was done in order to ensure an unbiased sample for this particular group.

Table 4 Comparison of full count and sample:
 Persons in hotels and boarding houses

England and Wales

Count	Population in hotels and boarding houses				
	Total	Manager, staff and relatives	All guests	Visitor guests	Resident guests
100 per cent	358,141	124,844	233,297	104,540	128,757
10 per cent	328,93	131,03	197,90	93,28	104,62
Difference - number	-29,21	6,19	-35,40	-11,26	-24,14
Difference - per cent	-8.2	5.0	-15.2	-10.8	-18.7

Other non-private households

A comparison was also made with respect to the inmates and people enumerated in other non-private households. The results are shown in Table 5. This table shows that the distortion in the sample was nowhere as serious as that noted above for hotels and boarding-houses. On the whole the sample population in other non-private households appears to have been overstated by about 1 per cent. It seems that there was some replacement of inmates by staff but this is only visible to any marked extent for private hospitals and nursing homes, old people's homes and children's homes. There are quite appreciable excesses of staff, even where there is no net deficiency of inmates, in all the other groups except psychiatric hospitals. It is remarkable that among men in homes for the disabled, there is an excess of inmates and a shortage of staff in the sample. On the whole though the absolute differences are not large and are unlikely to have produced any serious distortion in the published figures based on the ten per cent sample. This is true even, for example, for occupations where a large proportion of the group is made up of staff of institutions, such as nurses.

Private households by persons by rooms

Although the total number of private households in the sample was almost exactly one-tenth of the full count of private households, it was found that the distribution of households in the ten per cent sample according to the number of rooms they occupied and the number of persons in the household was biased. The effect of this bias is shown by Tables 6 to 9 and Diagram A which show separate figures according to whether the household was sharing a dwelling or not.

For households in all dwellings there is under-representation of one-person households and of households with 7 or more persons. For this group there is also a clear gradient from under-representation of households occupying one room (10 per cent under-represented) through almost correct representation of households with five rooms to increasing over-representation of households occupying large numbers of rooms. The over-representation reached 40 per cent for households which occupied 15 or more rooms. This gradient from under-representation of households occupying few rooms to over-representation of households occupying many rooms is present for most sizes of household.

On the whole, the pattern for those households which did not share a dwelling was practically the same as that for all households.

For households sharing a dwelling the sample under-represents the total number of such households by 4.3 per cent and the number of people in these households by 2.7 per cent. Within the context of general under-representation, a similar pattern to that described above for all households is visible both for the number of persons and the number of rooms occupied from Table 8 for households sharing a dwelling.

Table 5 Comparison of full count and sample:
Persons in non-private establishments

Non-private establishments	Full count				10 per cent sample				Difference (10 per cent - one tenth of full count)				Difference as percentage of one tenth of full count			
	Males		Females		Males		Females		Males		Females		Males		Females	
	Inmates	Others	Inmates	Others	Inmates	Others	Inmates	Others	Inmates	Others	Inmates	Others	Inmates	Others	Inmates	Others
1. N.H.S. hospitals, other than psychiatric	100,273	6,415	139,654	66,212	101,07	6,24	141,32	67,51	79.7	-17.5	1,66.6	1,29.8	0.8	-2.7	1.2	2.0
2. Other hospitals, other than psychiatric	8,926	1,446	20,560	7,938	9,08	1,58	19,80	8,79	15.4	13.4	-76.0	85.2	1.7	9.3	-3.7	10.7
3. Psychiatric hospitals (N.H.S. and other)	87,033	3,426	102,567	7,222	88,28	3,32	104,04	7,27	124.7	-10.6	1,47.3	4.8	1.4	-3.1	1.4	0.7
4. Old persons' homes	24,732	1,983	50,690	6,696	25,18	2,47	49,50	7,69	44.8	48.7	-1,19.0	99.4	1.8	24.6	-2.3	14.8
5. Disabled persons' homes	2,847	306	3,441	811	2,94	26	3,42	88	9.3	-4.6	-2.1	6.9	3.3	-15.0	-0.6	8.5
6. Old and disabled persons' homes	6,706	363	10,625	1,209	6,72	40	10,61	1,33	1.4	3.7	-1.5	12.1	0.2	10.2	-0.1	10.0
7. Children's homes	19,881	2,271	14,269	8,688	19,49	2,47	13,76	8,99	-39.1	19.9	-50.9	30.2	-2.0	8.8	-3.6	3.5
8. Places of detention	35,898	1,022	2,557	927	36,08	1,08	2,48	1,06	18.2	5.8	-7.7	13.3	0.5	5.7	-3.0	14.3
9. Civilian ships, boats and barges	32,941		2,304		33,20		2,15		25.9			-15.4	0.8			-6.7
10. Miscellaneous communal establishments	81,919		44,724		80,49		44,66		-1,42.9			-6.4	-1.7			-0.1
11. Educational establishments			117,109				119,14				2,03.1				1.7	

Table 6 Comparison of full count and sample:
Households by size by rooms occupied:
Households in all dwellings

England and Wales

Number of persons present at census		Number of households occupying the following number of rooms															Total households	Total persons	Total rooms	Persons per room		
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 or more						
Excess or deficiency (-) of 10 per cent sample compared with one tenth of full count																						
1	-23,43.9	-31,78.7	-28,97.8	-40,85.7	-27,44.2	-6,36.4	-99.2	24.2	14.0	54.0	13.0	9.5	9.5	2.3	15.7	-158,62.7	-158,62.7	-507,62.4	0.00			
2	-4,60.3	-6,56.1	-7,77.3	-1,31.6	8,36.0	20,88.8	6,99.4	5,19.5	3,18.8	1,64.2	69.6	62.0	6.8	23.5	65.4	28,28.7	56,57.4	288,41.3	-0.01			
3	-2,11.8	-3,16.3	2,26.7	10,58.1	20,62.1	22,25.2	9,42.9	6,06.3	3,13.3	1,74.7	83.8	81.7	41.5	23.2	79.5	73,90.9	221,72.7	479,81.0	0.00			
4	-65.4	-2,10.8	6,68.8	3,73.2	18,68.9	19,10.6	9,24.6	4,81.3	2,38.1	2,25.9	97.0	51.0	31.3	20.9	49.5	61,24.9	244,99.6	404,96.6	-0.01			
5	-66.0	-62.2	-1,85.4	-1,22.4	4,54.0	8,32.0	5,88.5	4,39.3	1,64.7	1,54.6	43.8	59.1	23.0	34.1	81.4	24,38.5	121,92.5	202,56.2	-0.01			
6	-17.3	8.8	-1,29.0	8.7	1,32.2	5,31.6	2,38.7	3,26.6	1,21.5	95.4	46.5	41.1	16.0	15.2	46.2	14,82.2	88,93.2	121,16.5	-0.02			
7	-9.5	-47.5	-96.3	-4,75.3	-9,28.4	-3,58.7	-4.0	-50.8	-11.5	-18.3	15.0	-6.1	4.8	6.7	36.8	-15,43.1	-136,01.7	-87,78.0	-0.02			
8	-2.1	-15.7	-72.9	-2,97.7	-5,76.8	-2,57.1	-1,24.0	-73.9	-35.5	5.1	3.2	-10.9	3.8	3.2	12.8	-14,58.5	-115,08.0	-73,06.3	-0.02			
9	-2.7	-7.4	-16.7	-21.3	-1,37.5	-24.6	-21.7	-25.0	-4.9	-9.6	7.3	-2.8	-0.4	1.3	4.7	-2,61.3	-23,51.7	-13,19.2	-0.01			
10	0.2	1.5	-7.5	-36.1	-69.0	-56.4	21.1	-4.6	-11.5	2.5	-2.0	-1.2	-1.0	-2.8	3.9	-1,62.9	-16,29.0	-8,04.6	-0.03			
11	0.5	0.1	-7.9	-1.2	-53.0	-21.8	-21.4	-3.3	-1.2	-3.5	0.7	-1.8	2.0	-0.8	-1.0	-1,13.6	-12,49.6	-6,21.8	-0.02			
12	-0.3	-1.4	1.6	-3.5	-12.1	-6.9	-1.6	0.4	-3.0	1.0	0.7	-2.8	0.6	2.5	0.6	-24.2	-2,90.4	-1,27.9	-0.01			
13 or more	-0.3	-0.8	-2.2	-7.9	-37.0	-47.2	-21.3	-12.1	1.1	2.8	0.2	-2.1	0.1	-0.6	-5.3	-1,32.6	-18,95.1	-8,95.3	-0.06			
Total households present																					0.00	
Total persons																					790,79.1	
Total rooms																					250,27.2	
Percentage increase or decrease (percentages for increase/decrease less than 40.0 not shown)																						
1	-11.2	-10.7	-8.4	-8.1	-6.8	-4.3	-3.0	+	+	23.0	+	+	-	+	+	-8.1	-8.1	-7.1				
2	-6.7	-2.3	-1.2	-0.1	0.6	4.3	6.3	11.3	19.2	18.8	20.8	24.1	43.0	+	43.1	0.6	0.6	1.5				
3	-8.4	-3.7	0.6	1.1	1.6	5.2	9.1	13.8	18.4	19.1	23.3	30.7	43.0	+	49.5	2.2	2.2	3.1				
4	-6.1	-5.5	0.4	0.6	1.6	4.8	8.7	10.7	16.6	23.6	25.0	18.4	+	+	29.2	2.3	2.3	3.1				
5	-18.6	-4.7	-3.0	-0.5	0.7	3.9	8.5	13.4	11.8	19.6	13.5	25.2	+	+	56.7	1.9	1.9	3.0				
6	-	+	-6.5	+	0.5	5.3	6.7	17.5	14.0	18.8	20.4	24.8	+	+	40.6	2.7	2.7	4.1				
7	-	-30.5	-13.6	-12.4	-9.0	-8.3	-	-5.8	-	-	+	+	+	+	+	-8.5	-8.5	-7.0				
8	-	-	-26.7	-18.5	-12.9	-11.5	-15.8	-	-	+	+	+	-	-	+	-13.7	-13.7	-12.5				
9	-	-	-	-	-7.8	-11.0	-	-	-	+	+	+	-	-	+	-6.2	-6.2	-5.5				
10	+	+	-	-	-8.9	-11.0	+	-	-	+	-	-	-	-	+	-8.2	-8.2	-7.0				
11	+	+	-	-	-15.6	-	-	-	-	-	+	+	+	+	-	-12.3	-12.3	-11.3				
12	-	-	+	-	-	-	-	-	-	+	+	+	+	+	+	-	-5.4	-5.4				
13 or more	-	-	-	-	-	-	-	-	+	+	+	+	+	+	-	-36.8	37.7	-36.0				
Total households present																					1.2	
Total persons																					0.6	
Total rooms																					1.2	

Table 7

Comparison of full count and sample:
Households by size by rooms occupied:
Households in unshared dwellings

England and Wales

Number of persons present at census		Number of households occupying the following number of rooms															Total households	Total persons	Total rooms	Persons per room
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 or more				
Excess or deficiency (-) of 10 per cent sample compared with one tenth of full count																				
1	-6,90.9	-23,45.6	-24,07.5	-40,37.2	-27,27.7	-6,52.6	-1,12.1	21.4	14.5	49.0	9.3	8.1	-9.8	2.8	15.9	-128,62.4	-128,62.4	-459,97.0	0.00	
2	-3.6	-2,51.2	-7,06.4	-1,01.2	7,89.4	20,52.0	6,95.2	5,07.8	3,17.6	1,64.3	71.2	60.6	7.1	23.9	64.5	36,91.2	73,82.4	298,32.3	0.00	
3	-40.1	-1,46.9	1,12.8	8,79.4	19,40.5	22,01.8	9,18.1	5,91.0	3,13.2	1,74.5	83.9	82.3	40.1	22.8	80.7	72,54.1	217,62.3	463,94.5	0.00	
4	-5.7	-1,03.0	63.1	2,78.1	18,15.3	18,55.2	8,95.0	4,69.9	2,94.8	2,20.6	94.0	49.5	32.0	20.5	49.6	60,28.9	241,15.6	393,49.5	-0.01	
5	-17.5	-25.6	-1,51.4	-1,58.2	3,82.8	7,86.8	5,78.4	4,45.0	1,60.4	1,51.2	42.6	59.9	23.7	34.5	80.3	23,92.9	119,64.5	196,06.8	-0.01	
6	-10.9	8.9	-1,13.9	-41.4	1,16.6	5,11.8	2,35.8	3,11.7	1,14.4	86.6	44.4	42.1	14.9	14.8	46.8	13,82.6	82,95.6	114,58.1	-0.02	
7	-6.1	-22.1	-67.0	-4,26.1	-9,06.3	-3,52.2	-0.8	-49.2	-10.2	-17.9	15.3	-5.3	5.0	6.8	36.3	-17,99.8	-125,98.6	-82,25.7	-0.02	
8	-0.3	-8.6	-52.0	-2,61.5	-5,62.6	-2,34.5	-1,20.5	-68.1	-32.7	3.9	4.0	-10.6	3.8	3.2	13.0	-13,23.5	-105,88.0	-67,74.3	-0.02	
9	-2.0	-2.9	-14.2	-21.5	-1,36.0	-20.7	-19.5	-27.5	-5.4	-9.1	7.8	-2.4	-0.4	1.4	4.7	-2,47.7	-22,29.3	-12,64.3	-0.01	
10 or more	0.2	0.0	-11.3	-42.3	-1,66.9	-1,31.8	-21.7	-21.1	-13.0	1.7	-0.2	-7.6	1.9	-1.6	-1.5	-4,15.2	-48,57.0	-23,67.2	-0.03	
Total households present																				
Total persons																				
Total rooms																				
Percentage increase or decrease (percentages for increase/decrease less than 40.0 not shown)																				
1	-9.7	-10.6	-8.6	-8.3	-6.9	-4.5	-3.5	+	+	21.2	21.4	23.8	+	+	42.9	-7.8	-7.8	-7.0		
2	-	-1.3	-1.3	-0.1	0.6	4.3	6.3	11.2	19.3	18.9	21.4	23.8	+	+	50.7	0.9	0.9	1.6		
3	-3.5	-2.9	0.3	0.9	1.6	5.2	8.9	13.6	18.6	19.2	23.4	31.2	41.8	+	29.5	2.3	2.3	3.1		
4	-	-4.7	0.4	0.4	1.5	4.7	8.5	10.6	16.6	23.2	24.4	18.0	+	+	29.5	2.3	2.3	3.1		
5	-	-	-2.9	-0.6	0.6	3.8	8.5	13.7	11.6	19.3	13.2	25.6	+	+	56.3	1.9	1.9	3.0		
6	-	+	-7.0	-0.4	0.5	5.2	6.7	16.9	13.3	17.2	19.6	25.5	+	+	41.3	2.6	2.6	3.9		
7	-	-	-11.8	-11.6	-8.9	-8.2	-	-5.7	-	+	+	-	+	+	+	-8.0	-8.0	-6.7		
8	-	-	-24.3	-17.0	-12.7	-10.7	-15.7	-15.0	-	+	+	-	+	+	+	-13.0	-13.0	-11.8		
9	-	-	-	-	-7.8	-	-	-	-	+	+	-	-	-	-	-6.0	-6.0	-5.4		
10 or more	+	+	-	-10.0	-12.5	-13.3	-	-	-	+	-	-	+	-	-	-11.4	-12.2	10.8		
Total households present																				
Total persons																				
Total rooms																				
Percentage increase or decrease (percentages for increase/decrease less than 40.0 not shown)																				
1	-6.5	-5.8	-2.4	-1.0	0.1	3.3	6.3	10.2	13.4	17.3	19.1	19.1	19.1	21.5	26.1	40.2	0.3	0.7	1.3	
2	-5.3	-4.4	-1.7	-0.7	0.0	3.0	5.9	9.0	10.9	14.9	17.9	14.5	22.7	24.6	36.1	36.1	0.7	0.7		
3	-6.5	-5.8	-2.4	-1.0	0.1	3.3	6.3	10.2	13.4	17.3	19.1	19.1	19.1	21.5	26.1	39.7	1.3			

Table 8 Comparison of full count and sample:
Households by size by rooms occupied:
Households in shared dwellings

Number of persons present at census		Number of households occupying the following number of rooms															Total households	Total persons	Total rooms	Persons per room
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 or more				
Excess or deficiency (-) of 10 per cent sample compared with one tenth of full count																				
1	16,53.0	-8,33.1	-4,90.3	-48.5	-16.5	16.2	12.9	2.8	-0.5	5.0	3.7	1.4	0.3	-0.5	-0.2	-30,00.3	-30,00.3	-47,65.4	0.01	
2	-4,56.7	-4,04.9	-70.9	-30.4	46.6	36.8	4.2	11.7	1.2	-0.1	-1.6	1.4	-0.3	-0.4	0.9	-17,25.0	-17,25.0	-9,91.0	-0.02	
3	-1,71.7	-1,69.4	1,13.9	1,78.7	1,21.6	23.4	24.8	11.4	0.1	0.2	-0.1	-0.6	1.4	0.4	-1.2	1,36.8	4,10.4	15,86.5	-0.03	
4	-59.7	-1,07.8	5.7	95.1	53.6	55.4	29.6	11.4	3.3	5.3	3.0	1.5	-0.7	0.4	-0.1	96.0	3,84.0	11,47.1	-0.04	
5	-48.5	-36.6	-34.0	35.8	71.2	45.2	10.1	-5.7	4.3	3.4	1.2	-0.8	-0.7	-0.4	1.1	45.6	2,28.0	6,49.4	-0.05	
6	-6.4	-0.1	-15.1	50.1	15.6	19.8	2.9	14.9	7.1	8.8	2.1	-1.0	1.1	0.4	-0.6	99.6	5,97.6	6,58.4	-0.07	
7	-3.4	-25.4	-29.3	-49.2	-22.1	-6.5	-3.2	-1.6	-1.3	0.4	-0.3	-0.8	-0.2	-0.1	0.5	-1,43.3	-10,03.1	-5,49.3	-0.03	
8	-1.8	-7.1	-20.9	-36.2	-14.2	-22.6	-3.5	-5.8	-2.8	1.2	-0.8	-0.3	*	*	-0.2	-1,15.0	-9,20.0	-5,32.0	0.05	
9	-0.7	-4.5	-2.5	0.2	-4.5	-3.9	-2.2	2.5	0.5	-0.5	-0.5	-0.4	*	-0.1	*	-13.6	-1,22.4	-54.9	-0.04	
10 or more	-0.1	-0.6	-4.7	-6.4	-4.2	-0.5	-1.5	1.5	-1.6	1.1	-0.2	-0.3	-0.2	-0.1	-0.3	-18.1	-2,07.1	-82.4	-0.08	
Total households present		-24,02.0	-15,89.5	-5,48.1	1,89.2	2,50.1	1,63.3	74.1	47.0	10.3	24.0	6.5	0.1	0.7	-0.4	-37,74.8	-53,57.9	-29,33.6	-0.01	
Total persons		-36,51.0	-30,49.1	-9,69.3	5,91.0	7,73.3	4,56.4	1,90.6	1,59.2	34.3	1,11.3	15.1	-16.3	0.2	-0.8	-53,57.9	-9,20.0	-5,49.3	-0.03	
Total rooms		-24,02.0	-31,79.0	-16,44.3	7,56.8	12,50.5	9,79.8	5,18.7	3,76.0	92.7	2,40.0	71.5	1.2	9.1	-5.6	-29,33.6	-1,22.4	-54.9	-0.04	
Percentage increase or decrease (percentages for increase/decrease less than 40.0 not shown)																				
1	-11.9	-11.2	-7.7	-2.5	-	+	+	+	-	+	+	+	+	-	-	-9.9	-9.9	-8.0		
2	-11.3	-4.8	-0.6	-	4.5	+	+	+	+	-	-	-	-	+	+	-2.9	-2.9	-1.2		
3	-12.5	-4.8	2.1	5.7	12.6	+	+	+	+	+	+	+	+	+	-	0.9	0.9	3.5		
4	-10.9	-6.5	+	4.8	6.5	17.1	+	+	+	+	+	+	-	-	-	1.2	1.2	4.2		
5	-27.0	-	-	+	16.6	21.9	+	-	+	+	+	-	-	-	+	1.4	1.4	5.5		
6	-	-	-	15.9	+	+	+	+	+	+	+	+	+	+	-	7.4	7.4	12.7		
7	-	-	-	-35.3	-	-	-	-	-	-	-	-	-	-	+	-25.2	-25.2	-23.5		
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-39.0	-39.0	-40.4		
9	-	-	-	+	-	-	-	+	+	+	-	-	-	-	-	-	-15.2	-13.3		
10 or more	-	-	-	-	-	-	-	+	-	-	-	-	-	-	-	-	-25.0	-22.1		
Total households present		-11.9	-7.2	-2.0	1.5	6.1	10.3	15.1	20.0	+	+	+	+	-	-	-4.3	-2.7	-1.3		
Total persons		-12.3	-6.5	-1.5	1.7	5.8	7.9	10.0	16.6	+	+	+	+	+	-	-2.7	-2.7	-2.7		
Total rooms		-11.5	-7.2	-2.0	1.5	6.1	10.3	15.1	20.0	12.5	61.5	39.4	+	+	+	-1.3	-1.3	-1.3		

* Nil return in both full count and sample

Table 9 Comparison of full count and sample:
Households by size by rooms occupied:
Households in shared dwellings without exclusive use of both stove and sink

England and Wales

Number of persons present at census	Number of households occupying the following number of rooms															Total persons	Total rooms	Persons per room
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15 or more			
Excess or deficiency (-) of 10 per cent sample compared with one tenth of full count																		
1	-10,48.1	-4,05.7	-1,79.9	-49.1	-3.9	-3.0	2.6	-1.0	0.5	1.9	1.5	-0.4	-0.3	-0.1	-0.4	-16,86.4	-16,86.4	-26,14.0
2	-3,04.2	-6,59.8	-51.7	-90.5	11.4	20.8	-5.2	3.5	-1.2	-0.7	-0.5	0.4	-0.1	-0.2	-0.3	6,78.3	-13,56.6	-11,96.3
3	-1,54.1	-1,66.4	-39.9	-3.9	36.1	-1.9	8.2	3.0	-0.3	-0.5	0.3	-0.4	-0.1	*	-0.6	-3,20.5	-9,61.5	-3,94.3
4	-60.9	-88.4	-44.9	-4.7	-12.1	-1.1	9.5	1.6	-0.8	1.2	1.2	-0.1	-0.3	*	-0.1	-1,99.9	-7,99.6	-3,68.3
5	-42.4	-14.7	-23.9	2.3	13.3	1.3	0.3	1.8	-0.3	0.3	0.4	-0.1	*	*	-0.2	-61.9	-3,09.5	-43.6
6	-2.6	2.0	-11.5	23.6	1.0	3.7	1.4	3.4	1.6	1.5	0.5	-0.3	0.8	-0.1	*	25.0	1,50.0	1,65.8
7	-3.4	-15.1	-2.4	-19.5	-8.9	1.8	-0.2	0.0	-0.3	-0.4	-0.2	-0.2	*	*	-0.1	-48.9	-3,42.3	-1,67.2
8	-2.5	-10.2	-2.3	-7.8	-2.3	-7.8	-3.4	-2.4	-0.8	0.6	-0.2	*	*	*	*	-48.1	-3,84.8	-2,14.9
9	-0.6	-3.0	-0.6	-1.7	-3.9	-3.0	-0.7	0.7	0.6	-0.2	-0.3	-0.1	*	*	*	-12.6	-1,13.4	-52.9
10 or more	-0.1	1.0	-2.6	-4.5	-2.8	-1.3	-0.1	0.8	-0.4	0.5	-0.1	-0.1	*	*	*	-9.8	-1,10.7	-42.3
Total households present	-16,16.8	-9,52.6	-3,67.6	-1,66.5	27.9	9.5	12.4	11.4	-2.4	4.2	2.6	-1.3	0.0	-0.5	-1.7	-30,41.4	-59,14.8	-49,28.0
Total persons	-26,27.5	-19,82.3	-9,01.9	-4,54.2	3.5	-32.1	26.1	45.3	-6.2	21.3	4.4	-6.9	2.8	-2.2	-4.9	-59,14.8	-59,14.8	-49,28.0
Total rooms	-16,16.8	-19,05.2	-11,02.8	-6,66.0	1,39.5	57.0	86.8	91.2	-21.6	42.0	28.6	-15.6	0.0	-7.0	-38.1	-49,28.0	-49,28.0	-49,28.0
Percentage increase or decrease (percentages for increase/decrease less than 40.0 not shown)																		
1	-14.2	-14.6	-12.4	-9.6	-	-	+	-	-	+	+	-	-	-	-	-13.6	-13.6	-12.6
2	-12.6	-7.8	-2.8	-13.1	+	+	-	+	-	-	-	+	-	*	-	-7.9	-7.9	-6.2
3	-15.6	-9.9	-	-	+	-	+	+	-	-	+	-	-	*	-	-6.8	-6.8	-3.4
4	-14.5	-11.1	-6.5	-	-	-	+	+	-	+	+	-	-	*	-	-7.9	-7.9	-5.3
5	-30.0	-	-	+	+	+	+	+	-	+	+	-	-	*	-	-5.8	-5.8	-1.3
6	-	+	-	+	+	+	+	+	+	+	+	-	+	*	*	+	5.4	10.9
7	-	-	-	-	-	-	-	-	-	+	-	-	*	*	*	-23.5	-23.5	-22.2
8	-	-	-	-	-	-	-	-	-	+	-	*	*	*	*	-40.4	-40.4	-45.1
9	-	+	-	-	-	-	-	+	+	-	-	-	-	*	*	-	-	-36.4
10 or more	-	-	-	-	-	-	-	+	-	+	-	-	*	*	*	-	-32.7	-29.9
Total households present	-14.2	-10.5	-6.4	-6.7	+	+	+	+	-	+	+	-	+	-	-	-10.1	-9.1	-7.6
Total persons	-14.6	-9.8	-6.2	-6.3	+	-	+	25.1	-	+	+	-	+	-	-	-9.1	-9.1	-7.6
Total rooms	-14.2	-10.5	-6.4	-6.7	3.1	2.8	11.6	24.5	-	72.4	+	-	+	-	-	-7.6	-7.6	-7.6

* Nil return in both full count and sample

Diagram A Comparison of full count and sample:
Percentage increase or decrease by size by rooms occupied:
Households in all dwellings

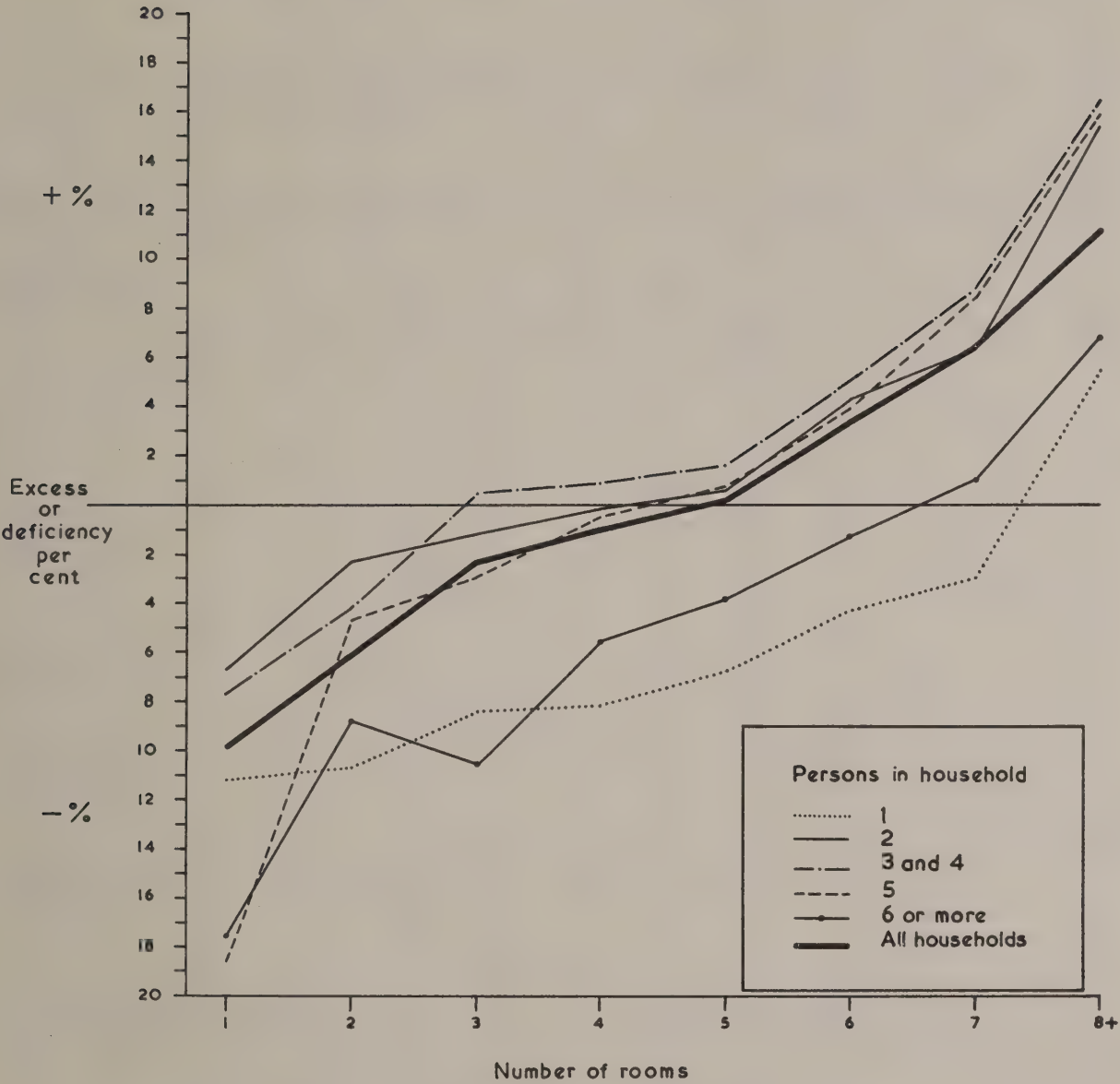


Table 10 Comparison of full count and sample: Households by size by rooms occupied

Regions, Conurbations, Urban/Rural Aggregates

		England and Wales	Northern Region	Tyneside Conurbation	Remainder of Northern Region	East and West Ridings Region	West Yorkshire Conurbation	Remainder of East and West Ridings Region	North Western Region	South East Lancashire Conurbation	Merseyside Conurbation	Remainder of Western Region	North Midland Region	Midland Region	West Midlands Conurbation	Remainder of Midland Region
Persons		Excess or deficiency (-) of 10 per cent sample compared with one tenth of full count														
1	158,62.7	-1,79.7	-9,08.7	-1,13.4	-7,29.0	-16,75.3	-7,17.3	-9,58.0	-22,73.8	-9,18.5	-3,26.0	-10,29.3	-12,80.6	-12,05.5	-5,54.1	-6,51.4
2	28,28.7	1,13.4	2,48.0	1,34.6	1,34.6	5,09.9	92.5	4,17.4	7,36.7	1,68.1	1,79.4	3,89.2	2,50.5	91.0	96.7	-5.7
3	73,90.9	27.4	3,17.4	2,90.0	2,90.0	6,48.4	3,46.9	3,04.5	9,91.6	3,84.0	85.4	5,22.2	7,72.9	5,52.7	2,81.1	2,71.6
4	61,24.9	20.3	4,24.2	4,03.9	4,03.9	7,52.3	2,57.5	4,94.8	7,22.2	3,82.4	1,64.5	1,75.3	3,40.9	5,98.6	2,59.8	3,56.8
5	24,38.5	24.2	1,31.2	1,07.0	1,07.0	1,23.8	51.0	72.8	2,86.3	1,19.1	32.9	1,34.3	2,17.3	4,06.1	2,07.1	1,99.0
6	14,82.2	38.1	79.9	41.8	41.8	1,40.9	93.7	47.2	1,79.5	51.9	85.2	42.4	1,61.2	1,37.1	47.5	89.6
7	-19,45.1	-18.9	-82.4	-63.5	-63.5	-1,64.1	-1.7	-4,62.4	-2,96.6	-93.7	-1,02.5	-94.4	-1,16.3	-1,72.8	-1,03.2	-66.4
8	-14,26.5	-34.8	-97.5	-34.8	-34.8	-1,18.3	-48.3	-70.0	-2,49.6	-1,03.7	-87.1	-58.8	1,10.5	-1,72.8	-85.2	-87.6
9	-2,61.3	8.4	-7.0	-15.4	-15.4	-15.1	-12.3	-2.8	-25.5	2.6	-15.2	-12.9	-40.4	-59.9	-40.6	-19.5
10 or more	-4,33.3	-17.5	-20.2	-2.7	-2.7	-27.3	3.4	-30.7	-76.9	-51.3	-33.3	-12.3	-41.4	-69.8	-39.6	-30.2
Total persons	250,27.2	38.8	17,23.9	16,85.1	16,85.1	31,95.4	18,67.6	13,27.8	23,95.6	11,50.1	-2,85.8	15,31.3	20,24.8	19,65.7	5,42.4	14,23.3
Persons		Percentage increase or decrease (percentages for increase/decrease less than 40.0 not shown)														
1	-8.1	-4.7	-7.1	-8.2	-8.2	-8.5	-7.5	-9.6	-7.7	-7.5	-6.6	-8.5	-9.2	-7.7	-7.1	-8.3
2	0.6	1.5	0.9	0.7	0.7	1.2	0.5	1.6	1.2	0.7	1.7	1.4	0.7	0.0	0.5	-
3	2.2	+	1.4	1.7	1.7	2.1	2.7	1.6	2.1	2.1	1.0	2.5	2.8	1.6	1.6	1.5
4	2.3	+	2.2	2.9	2.9	3.1	2.7	3.4	2.7	2.7	2.1	1.1	1.6	2.1	1.7	2.5
5	1.9	+	1.4	1.5	1.5	1.1	1.2	1.0	1.5	1.8	+	1.8	2.1	2.9	3.0	2.8
6	2.7	+	1.8	1.3	1.3	3.0	5.4	1.6	2.2	1.9	3.9	1.3	3.8	2.2	1.5	2.9
7	-8.5	-	-4.2	-4.3	-4.3	-8.3	-	-12.6	-8.5	-8.8	-9.7	-7.3	-9.6	-6.4	-7.5	-5.2
8	-13.7	-	-10.6	-9.1	-9.1	-13.1	-14.9	-12.0	-15.3	-19.9	-16.6	-10.1	-14.1	-13.4	-12.2	-14.8
9	-6.2	+	-	-	-	-	+	-	-	+	-	-	-12.1	-11.3	-13.8	-
10 or more	-11.6	-	-	-	-	-	+	-	-12.8	-	-	-	-14.2	-13.1	-	-
Total persons	0.6	0.0	0.5	0.7	0.7	0.8	1.1	0.6	0.4	0.5	-0.2	0.6	0.6	0.4	0.2	0.6
Rooms		Excess or deficiency (-) of 10 per cent sample compared with one tenth of full count														
1	-31,78.9	-36.3	-81.2	-44.9	-44.9	1,30.1	-99.6	-30.5	-2,59.5	-1,09.4	-67.0	-83.1	-1,10.7	-2,83.5	-2,38.1	-45.4
2	-44,86.5	-30.3	-3,18.5	-2,88.2	-2,88.2	-3,30.1	-2,03.7	-1,26.4	-5,31.8	-1,95.0	-1,12.6	-2,24.2	-2,69.7	-2,92.5	-1,36.7	-1,55.8
3	-38,95.9	-90.3	-4,43.6	-3,53.3	-3,53.3	-3,60.0	-1,83.5	-1,76.5	-5,21.0	-1,95.7	-1,18.2	-2,07.1	-4,40.5	-3,53.5	-1,01.8	-2,51.7
4	-37,42.7	-52.0	-2,21.1	-1,69.1	-1,69.1	-3,81.7	-71.3	-3,10.4	-2,45.3	-1,16.3	1.8	-1,30.8	-1,45.3	-4,99.8	-1,09.5	-3,90.1
5	7,95.2	-1,37.8	3,84.9	2,47.1	2,47.1	4,22.2	3,45.5	76.7	84.3	88.5	-16.1	11.9	-81.3	1,55.5	2,41.7	-1,06.2
6	61,79.1	31.2	2,87.7	2,56.5	2,56.5	3,96.3	1,19.3	2,77.0	7,17.6	2,72.9	1,69.3	2,75.4	4,30.9	5,95.4	2,53.7	3,41.7
7	31,22.0	5.1	1,74.3	1,69.2	1,69.2	2,49.2	57.7	1,91.5	3,37.4	79.4	93.5	1,64.5	2,18.7	2,33.0	55.8	1,77.2
8-9	33,91.8	4.2	1,84.7	1,80.5	1,80.5	2,24.8	90.7	1,34.1	2,78.9	76.4	32.8	1,69.7	3,16.7	3,06.6	61.8	2,44.8
10 or more	21,42.2	11.5	1,17.7	1,06.2	1,06.2	84.6	10.3	74.3	1,33.3	54.1	-0.2	79.4	1,81.8	2,64.5	22.6	2,41.9
Total households	3,26.3	-19.1	84.9	1,04.0	1,04.0	1,75.2	65.4	1,09.8	-6.1	-45.1	-16.7	55.7	1,00.6	1,05.9	49.5	56.4
Rooms		Percentage increase or decrease (percentages for increase/decrease less than 40.0 not shown)														
1	-9.9	-	-9.4	-9.2	-9.2	-9.2	-12.6	-	-9.0	-9.3	-7.2	-10.8	-9.8	-11.0	-14.7	-4.7
2	-6.2	-	-4.7	-6.9	-6.9	-4.7	-4.4	-5.1	-7.5	-8.3	-5.2	-8.7	-9.1	-5.6	-4.8	-6.5
3	-2.3	-1.3	-2.4	-3.2	-3.2	-2.2	-1.8	-2.8	-3.6	-3.8	-4.1	-3.2	-5.9	-2.8	-1.5	-4.3
4	-1.0	-0.6	-0.7	-0.7	-0.7	-0.9	-0.4	-1.3	-0.3	-0.4	+	-0.4	-0.5	-1.3	-0.6	-1.8
5	0.2	2.3	1.3	1.0	1.0	0.8	1.8	0.2	0.1	0.3	-	+	-0.1	0.2	0.8	-0.3
6	3.4	+	3.8	4.2	4.2	3.2	2.8	3.5	2.9	3.0	2.5	3.1	3.0	3.5	2.8	4.3
7	6.4	+	6.7	6.4	6.4	7.9	5.1	9.4	5.1	3.6	4.8	6.8	6.6	6.1	3.2	8.5
8-9	11.2	+	10.8	13.1	13.1	11.8	14.1	10.6	7.8	6.8	+	12.2	16.5	13.3	7.3	16.8
10 or more	20.9	+	20.7	21.6	21.6	16.6	+	20.4	14.7	25.2	-	17.9	28.4	33.1	+	39.1
Total households	0.0	-0.1	0.1	0.1	0.1	0.1	0.1	0.1	-0.0	-0.1	-0.0	0.1	0.1	0.1	0.1	0.1

		Urban/Rural Aggregates												
		Conurbations		Wales I (South East)		Wales II (Remainder)		Areas outside Conurbations						
								Urban areas with populations of		Rural Districts				
								100,000 or more		50,000 and less than 100,000				
		Excess or deficiency (-) of 10 per cent sample compared with one tenth of full count												
Persons														
1	-11,07.4	-40,62.7	-32,17.3	-8,45.4	-10,54.7	-13,21.4	-9,72.6	-5,42.0	-4,30.6	-59,12.9	-20,14.2	-12,10.5	-32,77.5	-34,47.6
2	22.9	6,61.0	6,41.6	19.4	3,24.3	-1,32.1	1,16.5	39.3	77.2	12,91.7	5,24.3	2,23.1	4,76.1	3,13.5
3	5,64.6	18,35.4	13,17.4	5,18.0	3,80.3	7,46.2	5,81.4	2,63.8	3,17.6	24,42.2	9,79.4	7,34.8	16,46.9	15,87.6
4	5,33.4	13,82.0	10,62.0	3,20.0	2,96.9	7,01.5	3,94.9	3,22.6	72.3	21,26.5	6,60.0	4,23.5	13,42.6	15,72.3
5	1,23.9	4,74.9	4,21.9	53.0	2,05.3	3,07.1	1,62.6	61.6	1,01.0	8,56.2	3,62.6	1,16.9	2,96.9	8,05.9
6	1,13.2	5,05.8	3,92.2	1,13.6	19.9	50.2	94.5	61.0	33.5	7,08.6	2,41.5	37.5	2,83.5	2,11.1
7	-1,19.8	-4,60.9	-3,88.2	-72.7	-1,23.5	-1,63.6	-1,93.3	-1,15.0	-78.3	-7,14.2	-3,56.5	-2,25.6	-3,76.3	-2,90.5
8	-71.6	-3,99.9	-3,72.0	-27.9	-59.1	-35.9	-1,23.1	-85.0	-38.1	-7,31.1	-2,72.6	-7.0	-2,24.9	-2,02.9
9	-24.9	-46.1	-13.8	-32.3	-10.5	-15.7	-16.2	2.9	-19.1	-70.9	-14.6	-34.6	-55.0	-86.2
10 or more	-21.7	-39.3	-32.7	-6.6	-24.8	-62.9	-49.0	28.4	20.6	-1,51.0	-65.9	-37.9	-62.3	-1,16.2
Total persons	20,89.8	63,24.2	44,67.5	18,56.7	23,45.3	30,36.9	9,25.6	5,07.1	4,18.5	77,80.6	24,38.6	15,37.0	54,97.0	77,74.0
Persons		Percentage increase or decrease (percentages for increase/decrease less than 40.0 not shown)												
1	-8.3	-7.0	-7.2	-6.3	-10.3	-9.5	-10.4	-9.0	-12.9	-7.1	-7.6	-7.0	-8.5	-11.1
2	+	0.6	0.8	+	1.2	-0.4	0.5	+	1.1	0.8	0.9	0.6	-0.5	0.4
3	2.1	2.3	2.2	2.5	1.9	3.1	3.1	1.9	6.2	2.0	2.2	2.4	2.4	2.4
4	2.2	2.2	2.3	1.9	1.8	3.7	2.6	2.9	1.8	2.2	1.8	1.7	2.9	2.9
5	1.2	1.6	2.0	0.7	2.5	3.2	2.0	1.0	4.7	1.9	2.0	1.0	1.1	3.0
6	2.6	4.2	4.4	3.5	+	1.2	2.5	2.2	+	3.6	3.1	+	2.5	1.8
7	-7.3	-9.7	-11.1	-5.7	-8.9	9.6	-12.2	-10.0	-18.0	-8.7	-10.4	-10.5	-8.2	-6.2
8	-10.0	-18.5	-23.0	-	-10.1	-	-17.0	-16.1	-	-18.7	-18.1	-	-11.2	-9.8
9	-	-5.8	-	-	-	-	-	+	-	-4.5	-12.3	-	-6.9	-10.4
10 or more	-	-	-	-	-	-26.6	-20.5	-	-	-10.3	-	-	-9.2	-16.2
Total persons	0.6	0.6	0.6	0.7	0.9	0.9	0.4	0.3	0.6	0.5	0.4	0.4	0.6	0.9
Rooms		Excess or deficiency (-) of 10 per cent sample compared with one tenth of full count												
1	-1,69.5	-17,63.1	-15,34.1	-2,29.0	-1,95.9	-1,04.6	-80.8	-72.1	-8.7	-20,84.5	-4,05.7	-2,13.2	-2,67.0	-2,08.5
2	-3,77.1	-15,61.1	-13,05.7	-2,55.4	-2,50.3	-2,90.4	-2,65.0	-1,62.9	-1,02.1	-19,84.0	-4,97.0	-3,28.3	-7,60.6	-9,16.6
3	-4,17.5	-3,88.0	-2,50.7	-1,37.3	-4,21.1	-4,61.3	-3,89.4	-1,72.0	-2,17.4	-9,40.2	-4,61.1	-1,83.4	-8,27.6	-15,03.6
4	-6,19.8	1,23.9	2,85.4	-1,61.5	-5,70.3	-5,82.0	-6,01.5	-2,50.3	-3,51.2	-61.9	-2,01.3	-1,75.4	-6,13.0	-26,91.1
5	-2,01.5	4,16.8	6,53.5	-2,36.7	16.4	-2,42.7	-1,39.4	-1,10.0	-29.4	14,50.9	2,04.1	22.0	-33.5	-8,48.3
6	8,04.6	14,43.8	10,31.7	4,12.1	4,19.3	5,73.4	5,10.1	3,34.2	1,75.9	18,78.1	7,04.9	4,55.5	10,71.9	20,68.7
7	3,51.3	7,35.8	4,75.8	2,60.0	2,16.8	2,95.4	3,10.1	1,14.6	1,95.5	7,67.3	3,87.3	1,85.6	5,43.5	12,58.3
8-9	3,41.0	5,13.4	2,97.7	3,17.8	2,29.0	5,58.9	4,37.8	2,14.6	2,23.2	5,63.6	2,93.5	1,85.8	6,63.5	17,05.4
10 or more	2,80.9	3,28.7	1,57.5	1,71.2	2,10.2	3,26.7	2,13.8	84.7	1,29.1	2,55.8	39.3	71.6	2,72.8	15,02.7
Total households	-7.6	-1,49.8	-1,88.9	39.1	-45.9	73.4	-4.3	-19.2	14.9	-1,54.9	64.0	20.2	50.0	3,47.0
Rooms		Percentage increase or decrease (percentages for increase/decrease less than 40.0 not shown)												
1	-10.7	-10.1	-9.9	-11.6	-9.9	-6.7	-13.6	-16.5	-	-10.2	-11.4	-9.5	-10.4	-6.3
2	-10.7	-5.3	-5.0	-7.0	-8.2	-6.9	-8.9	-7.0	-15.8	-4.9	-5.5	-6.3	-7.4	-12.6
3	-4.4	-0.6	-0.5	-1.5	-1.5	-4.7	-7.3	-4.8	-12.6	-1.1	-1.4	-1.4	-3.3	-6.5
4	-2.0	0.2	0.5	-0.7	-2.7	-2.3	-3.5	-2.2	-6.1	-0.0	-0.4	-0.5	-0.7	-3.5
5	-0.4	0.4	0.9	-0.7	+	-0.6	-0.5	-0.6	-	0.9	0.3	+	-	-0.8
6	5.2	3.2	3.3	3.0	3.1	3.6	2.7	2.3	4.5	3.0	2.8	2.5	2.6	5.5
7	8.7	6.1	5.6	7.1	6.7	5.9	6.1	3.3	12.7	4.8	6.7	4.6	5.2	9.8
8-9	12.3	6.8	6.1	7.9	10.5	14.6	16.9	15.8	18.0	6.4	10.1	7.3	10.4	17.1
10 or more	25.4	13.1	12.2	14.0	22.2	22.5	26.7	26.4	26.8	11.9	+	10.7	12.7	32.6
Total households	-0.0	-0.0	-0.1	0.0	-0.1	0.1	-0.0	-0.0	0.1	-0.0	0.0	0.0	0.0	0.1

For households sharing a dwelling and without exclusive use of both stove and sink, shown in Table 9, the deficiency in the sample reached 10 per cent for households and 9 per cent for people. In this group, all sizes of households (except 6 person households) were under-represented in the sample, though the under-representation was still relatively greatest for the smaller and very much larger households and least for medium sized households. The differences for this group were relatively small but there were still signs of a relative transition from too few households occupying few rooms to an excess of households occupying many rooms.

Similar tables were produced for regions, conurbations and urban and rural aggregates. The marginal distributions for both persons and rooms for all households are given in Table 10. The general patterns already noticed for England and Wales are repeated throughout this table. For every region, conurbation and urban and rural aggregate, one-person households and households with 7 or more people are under-represented and the gradient from under-representation of households with few rooms to over-representation of households with many rooms is universally apparent.

Among the urban-rural aggregates, the rural districts stand out as being more biased than the other aggregates. Apart from rural districts the figures for other areas are relatively similar with a slight indication that the conurbations were less biased than urban areas outside conurbations.

No clear geographical pattern emerges from the region and conurbation figures. Wales II has a relatively high bias which may well be associated with the predominantly rural character of the region. The amount of bias also appears to be on the high side in the North Midland region, the remainder of the Midland region, the Eastern region and Wales I. The amount of bias was relatively low in the East and West Ridings, the North Western and the London and South Eastern regions.

Households by tenure

A comparison of households classified by tenure and by the number of rooms occupied shows a further aspect of the bias in the ten per cent sample. The percentage differences are shown in Table 11. The results of this table should be treated with caution because the full count of households by tenure is on a de facto basis, whereas the ten per cent sample figures were available only on a de jure basis.

Table 11 Comparison of full count and sample:
Households by size by tenure:
Percentage excess or deficiency

England and Wales

Tenure	Households occupying the following number of rooms						Total	
	1	2	3-4	5	6-7	8 or more	Unstandardised	Standardised for room size
All tenures	-9.9	-6.2	-1.4	0.2	4.0	13.6	0.02	
Owner occupied	-6.9	-6.1	-0.1	0.7	4.5	13.0	1.75	0.83
Held by virtue of employment	-14.5	-7.5	-4.6	-1.0	4.1	22.4	-0.39	-1.50
Rented together with a farm or business premises	0.2	10.6	1.5	5.2	8.1	17.6	6.72	4.74
Rented from a local authority or New Town Corporation	-9.0	-14.8	-0.9	0.1	3.0	1.4	-0.55	-0.31
Rented unfurnished from a private person or company	-11.9	-6.7	-2.7	-1.0	2.4	9.8	-1.98	-1.32
Rented furnished from a private person or company	-14.4	-7.1	-6.3	-6.2	-3.3	-0.2	-8.78	-5.82

Table 11 indicates over-representation of households which are owner-occupiers of their accommodation and households which rented their accommodation with a farm or business and marked under-representation of those households renting furnished and, to a lesser extent, those renting unfurnished or holding their accommodation by virtue of employment. The amount of bias for the various tenure groups is partly concealed by the different distribution of rooms for the different tenure groups, but this can be allowed for by producing a standardised value for the whole group using the room distribution of households of all tenures combined. Such standardised figures, which are shown in Table 11, do not alter the direction of the bias although, for some groups (particularly renting with a farm or business and held by virtue of employment) the size of the bias is considerably modified. In all groups, with the possible exception of renting with a farm or business, the gradient associated with rooms is again observable.

Birthplace and nationality

Table 12 shows a comparison of the foreign born people enumerated in the full count and in the ten per cent sample according to their country of birth or country of nationality. For citizens of Commonwealth countries and Irish citizens the sample was deficient to the extent of 4.9 per cent of males and 2.6 per cent of females. Among those born in Commonwealth countries the ten per cent sample was reasonably representative apart from the deficiency of males born in Nigeria, Cyprus and particularly in Pakistan where there was a shortage of nearly a third. The sample for females was less biased though women born in Cyprus were again under-represented.

Among those born in the Colonies and Protectorates the most noticeable feature is the under-representation of those born in the West Indies; the sample of these people was 20 to 25 per cent short.

Aliens have been classified by their country of nationality in Table 12. The whole alien group is under-represented by about 13 per cent. The under-representation of people of Italian or Spanish nationality is particularly noticeable.

Cause of bias

It has not been possible to obtain any objective evidence as to the basic cause or causes of the bias which has been found. It was confirmed that the bias arose at the enumeration stage itself and had not been introduced during the processing of census data. This was possible by examining the sample for a few areas as originally selected and in the form in which it was finally processed. The comparison revealed no significant difference between the two. It seems clear, therefore, that this must have been an enumeration problem though one further point should be mentioned. The ten per cent sample census schedule contained a section for absent members of the household whereas the ninety per cent schedule did not. It is therefore possible that there was a tendency for households with a member away on census night to record themselves as *N* person households on the E.10 form in the sample with one person added in the absent member section but (wrongly) as a household with (*N* + 1) persons present on an E.90 form. This phenomenon could help to account for the relative shortage of one-person households in the sample but does not contribute towards the similar shortage of households with large numbers of persons. There is no evidence that this phenomenon occurred at all widely but even if it had it could not have provided anything like the full explanation.

It has already been noted that there is considerable evidence that some enumerators departed from the strict sampling scheme in a number of ways. It is easy to imagine ways in which such departures could be statistically biased, particularly if the enumerator feared either resistance to the larger and more complicated sample schedule or thought that certain types of person, such as the elderly or immigrants, might have difficulty in completing the more complex form. Some enumerators may have departed from the correct sample in an attempt to make the sample "representative" of their enumeration district. This would lead them to omit from the sample an unusual household which should have been included. Such features would contribute to the shortfall of certain groups born outside England and Wales (noted above) and also the shortage of old people. The great extent of the bias in rural districts could follow from the greater variation between households within an enumeration district in some rural areas compared with the greater uniformity found in many (though by no means all) urban enumeration districts. In some rural enumeration districts the enumerator would have a good idea of the type of person in a building before he reached it. This would be less true in many urban areas where the type of housing might be uniform throughout a complete enumeration district. The greater variability in rural areas would give more incentive and opportunity to "switch" a sample schedule than would be present in many urban areas.

Action taken on bias

The discovery of the bias in the ten per cent sample raised the difficult problem of deciding how, or if at all, the ten per cent sample tabulations should be amended or adjusted to attempt to correct the bias. The decision was taken not to alter the actual numbers obtained from the sample in the published tables. Even if the full information necessary to make such adjustments had been available it would have been a vast undertaking which, even with a large computer, would have produced an unacceptable delay in the production of the statistics. In fact, the information available on the true nature and size of the bias was very restricted and was quite insufficient to undertake a full correction programme. Instead of modifying the actual numbers produced it was decided to produce certain correcting factors which users could apply to the tables derived from the ten per cent sample. It was not a practical proposition to calculate

Table 12 Comparison of full count and sample:
Commonwealth and Irish citizens by
Country of Birth and Aliens by Country of Nationality

England and Wales

	Males			Females		
	Full count	10 per cent sample	Percentage excess or deficiency (-) of sample	Full count	10 per cent sample	Percentage excess or deficiency (-) of sample
Country of Birth						
Countries outside England and Wales	1,171,124	1,113,45	-4.9	1,161,433	1,130,94	-2.6
British Isles	722,489	708,72	-1.9	716,111	707,89	-1.1
Scotland	321,836	326,59	1.5	309,212	314,58	1.7
Northern Ireland	93,816	94,23	0.4	87,813	89,24	1.6
Irish Republic	249,517	231,59	-7.2	257,666	244,09	-5.3
Isle of Man and Channel Islands	3,618	3,42	-5.5	3,767	3,62	-3.9
Remainder of British Isles	53,702	52,89	-1.5	57,653	56,36	-2.2
Commonwealth Countries	210,147	191,94	-8.7	173,299	171,07	-1.3
Ghana	2,843	2,69	-5.4	1,395	1,33	-4.7
Nigeria	7,902	6,85	-13.3	4,192	3,81	-9.1
Rhodesia and Nyasaland (Federation of)	2,667	2,91	9.1	2,759	3,11	12.7
South Africa (Union of)	15,626	15,72	0.6	18,639	18,97	1.8
Canada	22,872	23,04	0.7	21,603	22,68	5.0
Ceylon	4,640	4,30	-7.3	3,935	3,81	-3.2
Cyprus	20,680	16,61	-19.7	16,193	13,26	-18.1
India	80,518	73,83	-8.3	66,435	65,71	-1.1
Malaya (Federation of)	4,475	4,80	7.3	4,244	4,25	0.1
Pakistan	23,124	15,95	-31.0	4,476	4,22	-5.7
Singapore	4,498	4,58	1.8	4,320	4,47	3.5
Australia	14,653	14,72	0.5	18,477	18,91	2.3
New Zealand	5,649	5,94	5.2	6,631	6,54	-1.4
Colonies and Protectorates	120,423	97,61	-18.9	95,946	80,50	-16.1
Gibraltar	3,524	3,31	-6.1	4,271	3,91	-8.5
Malta and Gozo	11,501	10,96	-4.7	10,958	11,40	4.2
Territories in East Africa	5,603	5,39	-3.8	4,314	4,21	-2.4
Other territories in Africa	4,875	4,01	-17.7	3,093	2,63	-15.0
British Guiana	5,431	4,18	-23.0	4,500	3,35	-25.6
Jamaica	49,503	38,51	-22.2	39,445	31,16	-21.0
Trinidad and Tobago	4,389	3,59	-18.2	3,849	3,20	-16.9
Other territories in the Caribbean	26,630	20,30	-23.8	20,396	15,68	-23.1
Hong Kong	5,404	4,73	-12.5	3,590	3,51	-2.2
Remainder of Colonies and Protectorates	3,563	2,63	-26.2	1,550	1,45	-6.5
Foreign Countries and at Sea	118,065	115,18	-2.4	176,077	171,48	-2.6
Austria	6,024	6,18	2.6	13,203	12,60	-4.6
Belgium	2,354	2,28	-3.1	6,935	6,51	-6.1
France	4,418	4,35	-1.5	10,751	10,00	-7.0
Germany	23,618	22,53	-4.6	49,509	48,09	-2.9
Italy	3,752	3,54	-5.7	9,589	9,55	-0.4
Poland	21,199	20,57	-3.0	10,905	10,12	-7.2
Other Countries in Europe	14,850	13,88	-6.5	24,829	23,92	-3.7
United Arab Republic	6,852	6,84	-0.2	8,167	8,46	3.6
Other Countries in Africa	3,130	3,03	-3.2	2,966	2,83	-4.6
United States of America	6,315	6,22	-1.5	9,033	9,16	1.4
Other Countries in America	4,753	4,68	-1.5	6,056	5,83	-3.7
Burma	3,689	4,18	13.3	4,656	4,94	6.1
Other Countries in Asia	8,347	8,18	-2.0	10,246	10,01	-2.3
U.S.S.R.	8,142	8,10	-0.5	8,617	8,63	0.2
Remainder of Foreign Countries and at Sea	622	62	-0.3	615	83	35.0
Country of Nationality						
All Countries and Stateless	236,056	204,69	-13.3	189,055	164,96	-12.7
Austria	1,687	1,74	3.1	6,646	6,13	-7.8
France	4,069	3,85	-5.4	9,074	8,49	-6.4
Germany	12,111	11,31	-6.6	22,235	20,30	-8.7
Hungary	8,409	7,28	-13.4	3,578	3,01	-15.9
Italy	31,872	23,27	-27.0	34,379	27,16	-21.0
Netherlands	4,728	4,29	-9.3	4,602	4,35	-5.5
Poland	57,729	50,33	-12.8	25,228	21,48	-14.9
Spain	5,308	4,21	-20.7	10,648	9,18	-13.8
Switzerland	3,032	3,06	0.9	5,533	5,78	4.5
Yugoslavia	6,154	5,12	-16.8	2,611	2,04	-21.9
Other Countries in Europe	11,762	10,64	-9.5	14,565	13,29	-8.8
Countries in Africa	3,301	2,81	-14.9	1,111	1,02	-8.2
United States of America	46,557	42,90	-7.9	29,707	26,36	-11.3
Other Countries in America	1,660	1,46	-12.0	1,657	1,40	-15.5
Countries in Asia	9,672	7,73	-20.1	5,301	4,31	-18.7
U.S.S.R.	24,202	20,81	-14.0	9,712	8,23	-15.3
Remainder	3,803	3,88	2.0	2,468	2,43	-1.5

such factors for every entry in the tables or even for all tables. Instead correction factors were obtained for certain of the more important marginal totals. To take one example; a bias factor was worked for each of the occupation orders and each of the industry orders. The intention was that these bias factors should be used by multiplying the sample figure by the appropriate bias factor to give a new figure partially corrected for bias. Thus, a bias factor of 0.98000 denoted that the published census estimate was too high by 2 per cent.

It is very important that the bias factors computed should be correctly interpreted. They can remove only that element of bias associated with the classification of households by numbers of persons, by numbers of rooms, by sharing status, by area and any effect due to the country of birth of the person concerned, though this last factor was only taken account of in a very summary fashion. They cannot remove other elements of bias which may exist and which may be fundamentally associated with other characteristics, such as occupation, socio-economic group, etc. It should also be remembered, as pointed out earlier, that these factors have been calculated in relation to the population enumerated in private households. No specific account was taken therefore in working these factors of biases found in that part of the population which was enumerated outside private households.

A brief description of the method of calculating the bias factors appears in Appendix 2B to this chapter.

Sampling Errors

Conventional sampling errors

Those census figures which have been derived from the ten per cent data are subject to sampling error which means that they will usually differ to some extent from the unknown true value that would have been obtained from a full count. This variability is inherent in sample based figures and should be distinguished from the element of error due to bias which was discussed in an earlier section. The great majority of figures published from the census fall into two groups, totals and proportions, though small numbers of figures of other types such as ratios of rates and proportions also appear.

Totals

For any sample total which is a small fraction (less than one-quarter) of the whole sample population, the statistical quantity known as the "standard error" of this sample based figure may be approximately estimated by the square root of the sample total concerned. To allow for the fact that sampling was on a ten per cent basis and was without replacement, this square root should be multiplied by the factor $\sqrt{0.9}$. Given this estimate of the standard error the odds are approximately

2 to 1 that the error in the sample total is less than its standard error

20 to 1 that the error in the sample total is less than twice its standard error.

This method of estimating sampling errors assumes that the sample in the 1961 Census was equivalent to a random sample of persons. This further implies an assumption that the tendency for the sampling error to be increased because of the clustering which follows from the use of a sample of households rather than one of persons was offset by the stratification involved in the use of a systematic sample which ensured that 1 in 10 households was selected evenly throughout the country.

Proportions

Although the great majority of figures published from the 1961 Census are numbers whose sampling error can therefore be conventionally estimated as described above, a number of tables contain proportions for rates where the sampling error cannot be estimated simply from the published figure. It was therefore decided to adopt certain conventions in the published tables which would warn the users of these tables when the sampling error to be attached to a proportion or rate reached particular levels. The levels adopted were as follows:-

Figures in italic type or accompanied by the symbol *

Standard error between 10 per cent and 25 per cent of the proportion or rate. This means that there is a chance

of about 1 in 20 that the true proportion could differ from the published figure by something between one-fifth and one-half of that figure.

Figures in brackets in italic type or accompanied by the symbol ‡

This implied that the standard error was 25 per cent or more of the proportion or rate i.e. that there was a chance of about 1 in 20 that the true proportion could differ from the published figure by as much as half or more of that figure. This symbol also accompanied all zero entries in tables of proportions. Here it cannot be interpreted in the numerical terms defined above but is an indication that because of sampling error the true proportion may be a non-zero quantity.

The formula used to estimate the standard error of a rate or proportion was as follows. Each proportion can be written as a ratio (x/n). The denominator (n) may be, for example, the total number of people who stated their duration of residence while the numerator (x) may be, for example, those who stated their duration of residence as less than 15 years. In practice such ratios have often been multiplied by some constant K , for example, 100 or 1,000. Thus writing the ratio as

$$p = x/n$$

the printed proportion is Kp .

$$\text{If } q = 1 - p$$

and $S(Kp)$ = estimate of the sampling error of Kp

then the formula used was

$$S(Kp) = K \sqrt{\frac{pq}{n}}$$

$$\text{and } C = \sqrt{\frac{q}{np}}$$

gives the sampling error as a fraction of the printed proportion. Thus, the figure was printed in italic type or accompanied by the symbol * where C was greater than or equal to 0.10 and less than 0.25 while the figure was printed in italic type in brackets or accompanied by the symbol ‡ whenever C was greater than or equal to 0.25.

If two independent proportions Kp_1 and Kp_2 (K having the same value) are to be compared, then the sampling error of their difference may be taken as

$$S(Kp_1 - Kp_2) = K \sqrt{\frac{p_1 q_1}{n_1} + \frac{p_2 q_2}{n_2}}$$

As mentioned in the paragraphs dealing with the sampling errors of totals these formulae are based on the assumption that the ten per cent sample used in 1961 Census could be taken as equivalent to a simple random sample of persons. The general point should also be remembered that the insertion of warning symbols in the tables takes no account of the fact that the estimate of standard error used to decide whether a significant indication should be used, is itself subject to sampling error.

True sampling errors

As part of the statistical assessment programme of the 1961 Census it was decided to check the validity of the assumption made above that the sample used in the census could legitimately be taken as being equivalent to a simple random sample. It was decided, therefore, to calculate the true sampling error (or rather the true sampling variance) taking into account the aspects of clustering and stratification mentioned above. To do this for all table entries using the whole of the ten per cent sample for the calculations would have been an impracticable computational task. Some very limited numerical investigations were therefore undertaken, using a specially selected sub-sample of census data. Because of its limited size this sub-sample could yield estimates of the true sampling errors for only a restricted range of broad groups of any census characteristics. Thus, for example, estimates could be made for several occupation orders combined but not for each of the 200 or so unit-groups in the full *Classification of Occupations*.

The sub-sample that was used to make these estimates of the true sampling errors was a two-stage sample. The first-stage units were ordinary enumeration districts and the second-stage units were households. It should be noted that this sub-sample strictly relates only to private households, though the results have in practice been applied to the whole population. It seems likely that the effect will be to give a slight over-estimate of the true sampling errors because line sampling used for persons in most non-private establishments should lead to smaller sampling errors than those found in the private population where the sampling unit was the whole household. The enumeration districts for the sub-sample were selected with probability proportional to the expected number of households. About 500 enumeration districts were selected systematically, this 500 being a sub-sample of the sample used for the post-enumeration survey, which has been described in an earlier section. Within each of these enumeration districts four private households enumerated on ten per cent schedules were chosen at random.

The enumeration districts were selected without replacement but in view of the small sampling fraction at the first stage, the calculation of the true sampling error has assumed that the sampling actually took place with replacement since the estimates of variances and sampling errors are in this way made much simpler. If anything, this may over-estimate the sampling error provided there is no systematic pattern in the initial listing. The four households selected within enumeration districts were sampled with replacement so that the same household may have appeared a number of times.

The ten per cent sample itself is stratified by enumeration district. The sub-sample used these strata as first-stage sampling units. The variance and sampling error calculations have assumed simple random sampling of households within enumeration districts. In fact, the sampling for the full ten per cent sample was systematic so that the variances are likely to be somewhat over-estimated.

Details of the formulae used to estimate the true sampling error and compare it with the conventional sampling error are given in Appendix 2C to this chapter.

Results of comparison of empirical sampling error with conventional sampling error

Table 13 gives a statement of the values computed for the ratio of the actual variance to the conventional variance, the conventional variance generally taking the npq form for numbers and $\frac{pq}{n}$ for proportions. The values in this table are in terms of variance (i.e. the square of the standard error discussed earlier) so that the actual sampling error would be within ten per cent of the conventional sampling error if the value of the ratio in Table 13 lies between 0.810 and 1.210 and would be within twenty per cent of the conventional sampling error if the ratio in the table was between 0.640 and 1.440.

As far as the variance of numbers is concerned, the majority of ratios were less than 1. This was in contrast to the results for proportions, where these were worked, for which the actual variance exceeded the conventional variance for the great majority of characteristics, although, on the whole, the excess of the actual variance compared with the conventional was not large and only rarely indicated that the actual sampling error exceeded the conventional sampling by more than 20 per cent.

It would be wrong to read too much into individual results because the ratios computed are themselves subject to some sampling error nevertheless it seems evident that the effect of clustering is apparent. Clustering is a situation where people of a particular type or with particular characteristics are grouped in households instead of being distributed randomly over the whole of the population. The clearest examples of this were the few figures available relating to migration, which all showed high ratios. This is because migration, or lack of it, tends to be a household characteristic. A lot of migrants were members of migrant families or households. Thus 4.9 million people changed their address in the year before census; 1.1 million complete families moved, which means that at least 2.2 million people moved in families, i.e. in groups. The same point is illustrated by Table 14. This table shows, for the households in the sub-sample used for the investigation of empirical sampling errors, the number of people in the households and the numbers of migrants or people with a specified duration of residence. Thus, of the 81 households containing migrants within the same area 60 were households where the whole household had moved. The same is true for 74 of the 93 households containing migrants between different areas. The feature is less well marked for households where one or more persons had lived there for 5 years or more, but there is still a fairly close association for the smaller households. Such clustering of migrants naturally increases the variance of estimates of migrants which are based on a sample of households, a household usually being equivalent to a family. A similar feature

Table 13 Comparison of true and conventional variance

England and Wales

Characteristic			Characteristic		
Ratio of actual to conventional variance			Ratio of actual to conventional variance		
Numbers			Numbers		
Proportions			Proportions		
Sex, age and marital condition			Industry		
Persons aged under 15 years	1.427	1.473	Order - 1	1.462	1.690
Males aged			2	0.506	0.595
15-24	1.068	1.198	3	0.702	1.037
25-34	0.777	1.217	5-9	0.868	1.190
35-44	0.777	1.204	4,13,18	0.860	1.113
45-54	0.778	1.094	10-12 Males	1.116	1.289
55-64	0.748	1.512	Females	0.963	1.063
65 and over	0.891	1.321	14-16	0.828	1.217
Females aged			17	0.979	1.325
15-24	0.822	1.170	19	0.823	1.222
25-34	0.789	1.253	20 Males	1.004	1.327
35-44	0.690	1.105	Females	1.048	1.205
45-54	0.748	1.090	21,24	0.650	1.046
55-64	0.707	1.158	22 Males	0.574	0.857
65 and over	0.925	1.370	Females	0.901	1.091
Single males	1.481	0.906	23 Males	0.819	1.079
Married males	0.445	0.857	Females	0.836	1.130
Widowed males	0.762	1.019	Hours worked a week		
Divorced males	0.452	0.600	Not more than 12 hours	1.110	0.915
Single females	1.189	0.937	Over 12 but not over 18 hours	1.005	0.856
Married females	0.382	0.872	Over 18 hours	2.141	0.881
Widowed females	0.808	1.293	Occupation		
Divorced females	1.011	1.341	Order - 1	1.290	1.487
Single males aged			2	0.574	0.682
15-24	2.210	1.478	3-5	1.030	1.227
25-39	1.172	1.451	6-7	0.941	1.275
40 and over	1.277	1.414	8,12-14	0.948	1.279
Married males aged			9-11 Males	1.016	1.197
15-34	0.802	1.140	Females	0.859	1.175
35-49	0.863	1.220	15-16	1.063	1.583
50-59	0.765	1.165	17,19,20	1.082	1.825
60 and over	0.891	1.281	18,26,27	1.181	1.640
Single females aged			21 Males	0.768	1.163
15-19	1.410	1.436	Females	0.698	1.072
20-39	0.954	1.219	22 Males	1.106	1.526
40 and over	1.324	1.519	Females	1.044	1.249
Married females aged			23 Males	0.623	0.910
15-29	0.845	1.199	Females	1.008	1.231
30-44	0.830	1.202	24,25 Males	0.846	1.260
45-59	0.853	1.221	Females	1.151	1.305
60 and over	0.865	1.317	Socio-Economic group		
Migration			1,2,13	0.953	1.437
Migrant-within same area	2.827	3.078	3,4	0.718	1.101
-between different areas	3.452	3.428	8,9,12,14	1.146	1.488
Resident 5 or more years			5,6	1.475	1.994
at present usual residence	1.465	1.829	7,10,15	1.763	2.041
Economic Position			11,16,17	1.275	1.629
Economically active males	0.607	0.428	Terminal Education Age		
females	0.652	0.645	T.E.A. 16 or more: age at census		
Out of employment - persons	0.844	1.006	under 35	1.498	1.020
Retired persons	0.793	1.233	35 or over	1.870	1.020
Other inactive persons	1.848	0.885			

A selection of the factors computed for household composition was:-

(i) Numbers

Persons in households of type		Families with wife or mother who is:-		Households by number of earners:-	
0 (a)	0.900	economically inactive	1.095	0 earners	0.473
0 (remainder)	1.617	in full-time employment	0.888	1 earner	0.791
1 (a) and (b)	2.996	in part-time employment	0.737	2 earners	0.839
1 (remainder)	2.617	not over 12 hours	0.919	3 or more earners	0.655
2 and 3	3.860	over 12 but not over 18 hours	1.013		
		over 18 hours	0.808		
Families with 0 earners	0.874			Households by number of dependent children:-	
1 earner	0.898	Households by size (de jure):-		0 children	0.766
2 or more earners	0.996	1 person	0.735	1 child	0.813
		2 persons	0.718	2 children	0.811
Families with:-		3 persons	0.842	3 or more children	0.896
0 dependent children	0.901	4 persons	0.777		
1 dependent child	0.878	5 persons	0.901	Household by type:-	
2 dependent children	0.868	6 or more persons	0.878	type 0 (a)	0.731
3 or more dependent children	0.903			0 (remainder)	0.781
		Households by rooms occupied:-		1 (a) 1 (b)	0.727
Families with head in S.E.G:-		1 room	0.533	1 (remainder)	0.781
1, 2, 13	0.769	2 rooms	0.624	2 and 3	0.877
3, 4	0.636	3 rooms	0.616		
8, 9, 12, 14	0.894	4 rooms	0.735		
5, 6	0.720	5 rooms	0.621		
7, 10, 15	0.819	6 rooms	0.753		
11, 16, 17	0.818	7 or more rooms	0.906		
economically inactive	0.894				

(ii) Proportions

Persons per room (de jure)	0.792	Persons per household	0.804	Rooms per household	0.670
1 person	0.802	Earners per person	0.835	Percentage of wives economically active	1.433
2 persons	0.864	" " " in families	0.835		
3 persons	1.240	Children per family	0.849		
4 persons	1.000*				
5 persons	0.845				
6 or more persons	1.056				

* Assumed

may well affect the figures for socio-economic groups; members of a household are likely to have similar socio-economic groups to each other.

Table 14 Relationship between Migrants and Household size:
Households by size by number of migrants by type

England and Wales
(Sub-sample)

	Households with the following number of persons												Total house- holds
	1	2	3	4	5	6	7	8	9	10	11	12 or more	
Total Households	252	564	455	351	176	76	28	10	8	2	1	-	1,923
Households with no migrants	68	176	128	115	53	20	7	4	-	1	-	-	572
Households with persons migrating within the same area													
1	6	1	3	1	-	-	-	-	-	-	-	-	11
2	-	18	9	1	-	1	-	-	-	-	-	-	29
3	-	-	13	1	-	-	-	-	-	-	-	-	14
4	-	-	-	10	4	-	-	-	-	-	-	-	14
5	-	-	-	-	11	-	-	-	-	-	-	-	11
6	-	-	-	-	-	1	-	-	-	-	-	-	1
7	-	-	-	-	-	-	1	-	-	-	-	-	1
8	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	-	-	-	-
10 or more	-	-	-	-	-	-	-	-	-	-	-	-	-
All households	6	19	25	13	15	2	1	-	-	-	-	-	81
Households with persons migrating between different areas													
1	8	2	7	1	1	1	-	-	-	-	-	-	20
2	-	25	3	1	-	-	-	-	-	-	-	-	29
3	-	-	17	1	-	-	-	-	-	-	-	-	18
4	-	-	-	12	-	-	-	-	-	-	-	-	12
5	-	-	-	-	7	1	-	-	-	-	-	-	8
6	-	-	-	-	-	2	1	-	-	-	-	-	3
7	-	-	-	-	-	-	1	-	-	-	-	-	1
8	-	-	-	-	-	-	-	1	-	-	-	-	1
9	-	-	-	-	-	-	-	-	1	-	-	-	1
10 or more	-	-	-	-	-	-	-	-	-	-	-	-	-
All households	8	27	27	15	8	4	2	1	1	-	-	-	93
Households with persons whose duration of residence was 5 or more years													
1	170	34	16	15	5	-	2	-	-	-	-	-	242
2	-	308	112	73	24	11	2	-	2	-	-	-	532
3	-	-	147	54	24	5	-	1	-	-	-	-	231
4	-	-	-	66	28	11	6	-	3	-	-	-	114
5	-	-	-	-	19	20	5	4	-	1	-	-	49
6	-	-	-	-	-	3	-	-	1	-	-	-	4
7	-	-	-	-	-	-	3	-	1	-	-	-	4
8	-	-	-	-	-	-	-	-	-	-	1	-	1
9	-	-	-	-	-	-	-	-	-	-	-	-	-
10 or more	-	-	-	-	-	-	-	-	-	-	-	-	-
All households	170	342	275	208	100	50	18	5	7	1	1	-	1,177

The use made of the empirical sampling error investigation results

In most of the volumes of census figures based on the ten per cent sample, the general explanatory notes contain a section on sampling which includes some notes on the sampling errors of totals where an account is given of the main features of the results of this investigation. The factors relating to proportions have generally been incorporated in the calculation of the estimates of sampling error used to decide whether a rate or proportion should be accompanied by an indication of the relatively large sampling error attached to it. For practical reasons this latter step was not possible for the tables on occupation and industry. In these volumes, therefore, the general explanatory notes contain a short textual statement of the main results of the investigation as regards the sampling errors of proportions or rates.

Check for bias at enumeration district level

The formulae used when comparing the ten per cent sample with the full count figures for individual enumeration districts were:-

(a) Private households

if H = All households

and h = households enumerated on ten per cent schedules

$$\text{and } d = (h - \frac{H}{10})$$

then $\text{Var } (d) = V$ was estimated to be $0.165 + 0.001H$.

The district was then printed out for further investigation where $\frac{d^2}{V} > 6.25$

(b) Persons in private households

if P = all persons in private households

and p = persons in private households enumerated in sample

$$\text{and } d = (p - \frac{P}{10})$$

then $\text{Var } (d) = W$ was estimated as $0.06P + \frac{p^2}{H^2} (V)$

The district was printed out for further investigation where $\frac{d^2}{W} > 6.25$

(c) All persons

if T = all persons

and t = persons included in sample

$$\text{and } d = (t - \frac{T}{10})$$

then $\text{Var } (d)$ was estimated as W (approximately).

The district was printed out for further investigation where $\frac{d^2}{W} > 6.25$

The figure 6.25 indicates that the difference was two and a half times the standard error, i.e. that there was a one in fifty-seven probability that it would have arisen by chance.

As far as private households were concerned the value of the ratio d^2 was not used as a criterion for further investigation. Instead of this ratio a set of acceptable limits were designed as follows:-

if $H = 10k + u$ (i.e. k is the whole number part of $\frac{H}{10}$ and $0.1u$ is the remainder e.g. if $H = 147$, $k = 14$ and $u = 7$)

then $h = k$ or $(k + 1)$ was acceptable in all instances

$h = (k + 2)$ or $(k - 1)$ was acceptable under certain conditions viz:-

$k + 2$ was acceptable for $u = 9$, $H = 149$ or more

$u = 8$, $H = 268$ or more

$u = 7$, $H = 407$ or more

$k - 1$ was acceptable for $u = 0$, $H = 150$ or more

$u = 1$, $H = 161$ or more

$u = 2$, $H = 182$ or more

$u = 3$, $H = 193$ or more

$u = 4$, $H = 224$ or more

$u = 5$, $H = 285$ or more

$u = 6$, $H = 436$ or more

Thus, for example, the acceptable range for H could vary as is shown below

H	Acceptable values of h
278 - 285	27 - 29
286 - 287	28 - 29
288 - 295	28 - 30

The application of these limits proved to be too strict a criterion and rejected for examination as many as a quarter of all enumeration districts. It was therefore amended by widening the acceptable range by one household each way. Thus, for example, the acceptable limits of h for $H = 278$ to 285 became 26-30.

Calculation of bias factors

A brief description of the method of calculation of these figures is as follows. For each of three birthplace groups (those born in the British Isles, those born in the West Indies and Caribbean territories, Pakistan, Ceylon, or Cyprus, and those born elsewhere) the one hundred per cent count of private households and the ten per cent sample count of private households were each (separately) distributed over a 4-way table whose axes were,

- (i) six categories of the number of persons in the household,
(1, 2, 3, 4, 5, 6 or more),
- (ii) six categories of the number of rooms occupied,
(1, 2, 3-4, 5, 6-7, 8 or more),
- (iii) three categories of sharing status, namely,
non-sharing,
sharing with exclusive use of stove and sink,
sharing without exclusive use of stove and sink,
- (iv) various geographical areas, namely,
 - (1) England and Wales.
 - (2) All Standard Regions separately.
 - (3) All Conurbations separately.
 - (4) Remainders of Standard Regions after subtracting Conurbations.
 - (5) All Conurbations combined.
 - (6) Urban areas outside Conurbations with populations of 100,000 or more, combined.
 - (7) Urban areas outside Conurbations with populations of 50,000 and less than 100,000, combined.
 - (8) Urban areas outside Conurbations with populations of less than 50,000, combined.
 - (9) Rural Districts outside Conurbations, combined.

Then if we let $X_{ijkl} = 100\%$ count of private households in the

- i th persons category ($i =$ one of the six persons groups from 1 to 6 or more)
- j th rooms category ($j =$ one of the six rooms groups from 1 to 8 or more)
- k th sharing category ($k =$ one of the three sharing categories)
- l th area

let $x_{ijkl} =$ corresponding 10% count of private households.

A "raising factor" for each cell of this table was calculated as

$$R_{ijkl} = \left(X_{ijkl} / x_{ijkl} \right)$$

As an example of the calculation of one bias factor, consider the males in Occupation Order I. This group of males can be distributed over the four-way table of private households from the 10% sample, according to the households in which they were enumerated. Let y_{ijkl} be the number of males in this group who were enumerated in the x_{ijkl} households in any one cell of this table. Then the bias factor for males in Occupation Order I who live in the l th area is defined as

$$B_l = \left[\sum_{i=1}^6 \sum_{j=1}^6 \sum_{k=1}^3 R_{ijkl} y_{ijkl} / 10 \sum_{i=1}^6 \sum_{j=1}^6 \sum_{k=1}^3 y_{ijkl} \right]$$

Similar bias factors were calculated in exactly the same way for females in this particular occupation order and for males and females in the remaining occupation orders and for the following ten per cent characteristics:-

Industry Orders

Socio-economic Groups

Length of stay (groups as for Migration Table 1)

Type of move (groups as for Migration Table 16)

Terminal Education Age (as for Education Table 2)

Place of work (within/outside area of usual residence).

Calculation of true sampling variance

Using the following notation:-

- i Enumeration districts ($i=1, 2, \dots, M$ for the whole ten per cent sample
 $i=1, 2, \dots, m$ for the sub-sample)
- j Household ($j=1, 2, \dots, N_i$ for the whole population,
 $=1, 2, \dots, N'_i$ for the whole ten per cent sample,
 $=1, 2, \dots, n_i$ for the "ten per cent" household
in the sub-sample, all in the
 i 'th E.D.)

y_{ij} Household total of characteristic,

e.g. for household categories $y_{ij} = 1$ or 0 according
to whether or not the ij 'th household is in the
category concerned

for families, persons or rooms occupied y_{ij} = number of
them belonging to the ij 'th household

for numerical characteristics of families or persons
(such as number of persons in family or number of
children born to a woman) y_{ij} = sum of values of
the variable over all units in the ij 'th household.

$$Y_i = \sum_j^{N_i} y_{ij} \quad \text{Population total of the characteristic for the } i\text{'th E.D.}$$

$$Y = \sum_i^M Y_i = \sum_i^M \sum_j^{N_i} y_{ij} \quad \text{Population total for England and Wales}$$

$$Y_{i.} = \sum_j^{N'_i} y_{ij} \quad \text{Ten per cent sample total for the } i\text{'th E.D.}$$

$$Y_{..} = \sum_i^M \sum_j^{N'_i} y_{ij} \quad \text{Ten per cent sample total for England and Wales}$$

$$\hat{Y}_i = \frac{N_i}{N'_i} \sum_j^{N'_i} y_{ij} \quad \text{Estimate of } Y_i \text{ from the ten per cent sample}$$

$$\hat{Y} = \sum_i^M \hat{Y}_i \quad \text{Estimate of } Y \text{ from the ten per cent sample}$$

$$y_{i.} = \sum_j^{n_i} y_{ij} \quad \text{Sub-sample total of the characteristic for the } i\text{'th E.D.}$$

$\bar{y}_i = y_{i.} / n_i$ Sub-sample mean for the i 'th E.D.

σ_i^2 Variance of y_{ij} within the i 'th E.D.

$s_i^2 = \frac{1}{n_i - 1} \sum_j^{n_i} (y_{ij} - \bar{y}_i)^2$ Estimate of σ_i^2 from the sub-sample

A_i Expected total number of households in the i 'th E.D. according to the Census Plan of Division

$A. = \sum_i^M A_i$ Expected total number of households in England and Wales

$a_i = \frac{A_i}{A.}$ Probability of selection of i 'th E.D. for the sub-sample $\left(\sum_i^M a_i = 1 \right)$

V Variance of an estimate

\hat{V} Estimate of the variance

We wish to estimate the variance of

$$\begin{aligned} \hat{Y} &= \sum_i^M \frac{N_i}{N_i'} \sum_j^{N_i'} y_{ij} \\ &= 10 \sum_i^M \sum_j^{N_i'} y_{ij} \text{ since } \frac{N_i}{N_i'} = 10, \text{ and is taken as } = 10, \text{ for all } i \end{aligned}$$

$$\begin{aligned} V(\hat{Y}) &= \sum_i^M \frac{N_i^2}{N_i'^2} \left(1 - \frac{N_i'}{N_i} \right) N_i' \sigma_i^2 \\ &= 90 \sum_i^M N_i' \sigma_i^2 \text{ if } \frac{N_i'}{N_i} = \frac{1}{10} \text{ for all } i \end{aligned}$$

If a simple random sub-sample of n_i households were drawn from every one of the M E.Ds. $V(\hat{Y})$ could be estimated as

$$\hat{V}(\hat{Y}) = 90 \sum_i^M N_i' s_i^2$$

In practice the two-stage sub-sample had to be used to estimate

$$\sum_i^M N_i' s_i^2 \quad \text{by} \quad \frac{1}{m} \sum_i^m \frac{N_i'}{a_i} s_i^2$$

so that

$$\hat{V}(\hat{Y}) = \frac{90}{m} \sum_i^m \frac{N_i'}{a_i} s_i^2$$

This estimate, made for broad categories, is then divided by another one made from the ten per cent sample statistics on the assumption of simple random sampling, usually of the unit of tabulation, and assuming certain marginal totals to be fixed. E.g. if $\hat{Y}=10Y_{..}$ is the estimated total number of males in a given occupation order and $\hat{X}=10X_{..}$ is the estimated total of economically active males

$$\hat{V}'(\hat{Y}) = 90Y_{..} \left(1 - \frac{Y_{..}}{X_{..}} \right)$$

Or if $\hat{Y}=10Y_{..}$ is the total number of persons in households, of rooms occupied or of children ever born to women married in a certain group of years and $\hat{X}=10X_{..}$ is the estimated number of households or women in question

$$\hat{V}'(\hat{Y}) = 90 \frac{X_{..}}{X_{..}-1} \sum_k \left(Y_{k..} - \bar{Y}_{..} \right)^2$$

where the k 's are the size classes (persons, rooms, children) in the ten per cent sample table for England and Wales.

From the ratios

$$f_1 = \frac{\hat{V}(\hat{Y})}{\hat{V}'(\hat{Y})}$$

calculated by the computer the factors for adjusting the $\hat{V}'(\hat{Y})$ in the detailed groups actually needed are then derived.

Appendix 2D.

Variance of an estimate of a ratio

The derived figures may be means such as mean family size (the average number of children ever born alive to a woman), proportions such as the percentage of households living at a density of more than $1\frac{1}{2}$ persons per room or the number of males in a given occupation per 10,000 economically active males, or they may be ratios, such as persons per room in a given class of households or persons in employment in an area as a percentage of local residents in employment, where the numerator is not necessarily part of the denominator. But they are generally in the form of a ratio.

Suppose the numerator of this ratio is the population total of some characteristic y and the denominator the total of another characteristic x . Then let x_{ij} , X , $X_{..}$, \hat{X} and \bar{x}_i have the meaning corresponding to the similar y and Y symbols and distinguish their variances by writing

$$\left. \begin{array}{ll} \sigma_{x^2i} & \text{Variance of } x_{ij} \\ \sigma_{y^2i} & \text{Variance of } y_{ij} \\ \sigma_{xyi} & \text{Covariance of } x_{ij} \text{ and } y_{ij} \end{array} \right\} \text{ within the } i\text{'th E.D.}$$

$$\left. \begin{array}{l} s_{x^2i} = \frac{1}{n_i-1} \sum_j^{n_i} (x_{ij} - \bar{x}_i)^2 \\ s_{y^2i} = \frac{1}{n_i-1} \sum_j^{n_i} (y_{ij} - \bar{y}_i)^2 \\ s_{xyi} = \frac{1}{n_i-1} \sum_j^{n_i} (x_{ij} - \bar{x}_i)(y_{ij} - \bar{y}_i) \end{array} \right\} \begin{array}{l} \text{Corresponding estimates} \\ \text{from the sub-sample} \end{array}$$

Let

$$R = \frac{Y}{X} \quad \text{Population ratio,}$$

$$\hat{R} = \frac{\hat{Y}}{\hat{X}} = \frac{Y_{..}}{X_{..}} \quad \text{Estimate of } R \text{ from the ten per cent sample.}$$

Then

$$\begin{aligned} \hat{R} - R &= \frac{Y_{..}}{X_{..}} - R = \frac{Y_{..} - RX_{..}}{\frac{1}{10}X} \\ &= \frac{10}{X} \sum_i \sum_j^{M N_i} (y_{ij} - R x_{ij}) \\ &= \frac{10}{X} \sum_i \sum_j^{M N_i} (y_{ij} - \hat{R} x_{ij}) \\ &= \frac{10}{X} \sum_i \sum_j^{M N_i} d_{ij} \quad \text{where} \quad d_{ij} = y_{ij} - \hat{R} x_{ij} \end{aligned}$$

The variance of \hat{R} is then given by

$$\begin{aligned}
 V(\hat{R}) &= \frac{100}{X^2} V\left(\sum_i^M \sum_j^{N_i'} d_{ij}\right) \\
 &= \frac{100}{X^2} \sum_i^M \left(1 - \frac{N_i'}{N_i}\right) N_i' \sigma_{di}^2 \quad \text{(where } \sigma_{di}^2 \text{ is the variance of } d_{ij} \text{ within the } i\text{'th E.D.)} \\
 &= \frac{90}{X^2} \sum_i^M N_i' \sigma_{di}^2
 \end{aligned}$$

which is of the same form as $V(\hat{Y})$.

We now estimate X from the ten per cent sample by $\hat{X} = 10X_{..}$ and σ_{di}^2 from the sub-sample by

$$s_{di}^2 = \frac{1}{n_i - 1} \sum_j^{n_i} (d_{ij} - \bar{d}_i)^2$$

Here $d_{ij} = y_{ij} - \hat{R}x_{ij}$ as before, y_{ij} and x_{ij} being values for the ij 'th sub-sample household and $\hat{R} = Y_{..}/X_{..}$ from the ten per cent sample, and

$$\bar{d}_i = \frac{1}{n_i} \sum_j^{n_i} d_{ij}$$

Hence $N_i' \sigma_{di}^2$ is estimated by $N_i' s_{di}^2$

and
$$\sum_i^M N_i' \sigma_{di}^2 \quad \text{by} \quad \frac{1}{m} \sum_i^m N_i' s_{di}^2$$

Then

$$\begin{aligned}
 \hat{V}(\hat{R}) &= \frac{0.9}{mX_{..}^2} \sum_i^m N_i' s_{di}^2 \\
 &= \frac{0.9}{mX_{..}^2} \sum_i^m \frac{N_i'}{a_i} \left(s_{yi}^2 - 2\hat{R}s_{xyi} + \hat{R}^2 s_{xi}^2 \right)
 \end{aligned}$$

The corresponding estimates $\hat{V}'(\hat{R})$ made from the ten per cent sample statistics on the assumption of simple random sampling (and fixed denominator in the case of means and proportions) were then as follows:-

For a proportion such as that of all economically active males (Y) who are in a given occupation order (X),

$$\hat{V}'(\hat{R}) = 0.9Y_{..} \left(1 - \frac{Y_{..}}{X_{..}} \right) / X_{..}$$

For a mean such as mean family size $\bar{y} = Y_{..}/X_{..}$, where $X_{..}$ is the number of married women in the ten per cent sample, $Y_{..} = \sum_y X_{y..} y$ is the number of children born to them ($X_{y..}$ being the number of women with y children),

$$\hat{V}'(\hat{R}) = \frac{0.9}{X_{..}(X_{..}-1)} \sum_y X_{y..} (y - \bar{y})^2$$

For the mean density of housing occupation, persons per room, $\hat{R}=Y../X..$ where $Y..=\sum_y n_{.y}y$ is the total number of persons in ten per cent sample households,

$X..=\sum_x n_{x.}x$ is the total number of rooms they occupy,

n_{xy} is the number of ten per cent sample households with y persons and x rooms,

$n_{.y}=\sum_x n_{xy}$ is the total number of households with y persons,

$n_{x.}=\sum_y n_{xy}$ is the total number with x rooms and

$n_{..}=\sum_x \sum_y n_{xy}$ is the total number of sample households.

Write

$\bar{x} = X../n_{..}$ mean rooms per household } in the ten per
 $\bar{y} = Y../n_{..}$ mean persons per household } cent sample

v = relative variance, e.g. $v(\bar{x}) = V(\bar{x}) + \bar{x}^2$

c = relative covariance, e.g. $c(\bar{x}, \bar{y}) = \text{Cov}(\bar{x}, \bar{y}) + \bar{x}\bar{y}$

and similarly \hat{v} and \hat{c} for their estimates.

Then $\hat{V}'(\hat{R}) = \hat{R}^2 \hat{v}'(\hat{R})$

$$= \hat{R}^2 \left[\hat{v}'(\bar{x}) - 2\hat{c}'(\bar{x}, \bar{y}) + \hat{v}'(\bar{y}) \right]$$

$$= \frac{Y..^2}{X..^2} \frac{0.9n_{..}}{n_{..}-1} \left(\frac{\sum_x n_{x.}x^2}{X..^2} - 2 \frac{\sum_x \sum_y n_{xy}xy}{X..Y..} + \frac{\sum_y n_{.y}y^2}{Y..^2} \right)$$

From the ratios

$$f_2 = \frac{\hat{V}(\hat{R})}{\hat{V}'(\hat{R})}$$

calculated by the computer the factors are derived for adjusting the relative variance $\hat{v}'(\hat{R})$ in the detailed groups actually needed. These adjusted relative variances are then compared with two criteria k_1^2 and k_2^2 to decide whether to print the ratio with the warning sign.

Usually $k_1^2 = 0.01$ and $k_2^2 = 0.0625$ so that

$$0.01 < f_2 \hat{v}'(\hat{R}) \leq 0.0625$$

results in an indication (italic print or asterisk) that the coefficient of variation of the ratio exceeds 10 but not 25 per cent.

CHAPTER 3

Quality of Response

Introduction

Chapter 1 dealt with the evidence which is available on the extent to which the 1961 Census achieved complete enumeration of the population. The other important facet of the quality of the enumeration is the extent to which the census questions were answered satisfactorily. This includes some assessment of the extent to which people failed to answer certain questions at all and also the extent to which the answers which were given did not represent the true situation.

The main tool for this assessment is the post-enumeration survey which has been described in Chapter 1. This was a pioneering effort as far as this country was concerned and it suffered from certain weaknesses which have, occasionally, prevented the making of any comparison and sometimes the comparison was not as satisfactory as would have been desirable. Nevertheless much useful information was derived from the post-enumeration survey, which indicated where weaknesses occur in the statistics produced from the census. The main weaknesses found have already been included in the explanatory notes to the various volumes of tables. As well as repeating this information, the present chapter also deals with those topics where no serious discrepancies were found.

In addition to the post-enumeration survey, information from the birth, death and marriage registration records has been used to assess the quality of certain items of information. These checks repeated similar comparisons which were made following the 1951 Census. These comparisons can be of particular importance in relation to projects which relate non-census data (e.g. statistics based on registration records) to census data to produce rates, etc. such as the projects on occupational mortality.

Any discrepancies discovered by these checking processes were not referred back or in any way held against the individuals concerned.

Usual residence

The check questions on usual residence appeared in section 2 of the Form PES.3 (see Appendix to Chapter 1). The questions asked at the post-enumeration survey differed somewhat from those put at the main census. The section started by asking whether a person had more than one usual residence. This was in an attempt to estimate the number of such people who, it is recognised, are likely to have some difficulty in completing the questions on usual residence.

People with more than one usual residence were asked to state the addresses of their usual residences and to say from which they went to work and at which they spent most of their weekends.

The results of the usual residence check are given in Table 15. This table suggests that just under ten persons in a thousand had more than one usual residence so that the problem is too large to be ignored. Although the numbers in the sample were not large, this table indicates some uncertainty about usual residence.

Of the 173 persons reporting more than one residence 36 were school children or students and 16 were members of the forces. Clear instructions were given in the notes to the census schedule that school children should give their home address and forces their married quarter or home address. 31 out of the 36 school children and 10 out of the 16 forces followed these instructions correctly.

No instructions were given on the census schedule or the notes to other classes of person with more than one residence and they were free to choose whatever residence they pleased. From the post-enumeration survey it is possible to divide the 121 persons in groups depending on where they normally spent the week and weekend. 13 spent the week at the enumeration address and the weekend elsewhere and of these 9 preferred to give the weekend address as their usual residence. 18 spent the weekend at the enumeration address and the week elsewhere and of these 12 preferred the weekend address. Thus 21 out of these 31 persons preferred to give the weekend address as their usual residence. A further 45 persons normally spent both week and weekend at the address of enumeration but nevertheless 19 of these preferred an alternative address as their usual residence. 10 persons were normally at the enumeration address either during the week or weekend and for 35 there was no information. These results made it clear that further instructions on usual residence to clarify the position of persons with more than one residence were needed in future censuses. The other main point of interest in this table concerns the people enumerated on

Table 15 Comparison of Census with Post-enumeration survey:
Residence

Note: "Here" means at the address of enumeration

Residence as stated at post-enumeration survey																			
Residence as stated at census		Checked																	
		One residence				More than one residence										Unchecked			
		Place of enumeration	Not as place of enumeration		School children and students	Forces	"Here" during week		Not "here" during week		"Here" during week	Not "here" during week	Neither or not stated	Total	"Yes" here	"Yes, here"	"No"	Others	No contact	Refusal	Total
As census	Not as census		d	e			f	g	h	i												j	k	l	m	n	o	p	q	r	s	t
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t
Part I																			
"Here"	18,072	-	-	27	10	4	12	26	2	16		18,169	74	112	1,708	96	426	645	21,230
Not "here"	4	54	1	9*	6	9	6	19	8	19		135	3	-	5	5	54	2	204
"None" or "no fixed"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	5	-	-	-	-	-	-	-	-	-	-	5	-	-	3	-	4	-	12
Total	18,081	54	1	36	16	13	18	45	10	35		18,309	77	112	1,716	101	484	647	21,446
Part III																			
"Here"	108	-	-	16	16	1	9	2	16	8		176	-	-	13	10	18	5	222
Not "here"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
"None" or "no fixed"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Blank	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	108	-	-	16	16	1	9	2	16	8		176	-	-	13	10	18	5	222

* Includes 4 persons enumerated at school address

Part III of the Ten per cent private household schedule. This part of the schedule was intended for people who were usually resident in the household but who were temporarily absent on census night. The post-enumeration survey indicates that 79 per cent of this group counting school children and forces were certainly residents of the household. The remaining 21 per cent all had more than one residence and 56 per cent of these were not normally resident during the week. This indicates the possibility of duplication between people returned as absent members of one household and those returned as residents of another household.

Accuracy of age statements

Comparison with birth registration records

Following the 1951 Census a check was made on the statements of age on the census schedule. This check was made by comparing the stated age with the date of birth according to the birth registration records. The results of this check were published in the *General Report of the 1951 Census* (pp. 35-43).

A similar exercise was carried out following the 1961 Census. The sample used for this exercise comprised the people included in the quality check sample of the post-enumeration survey. This had certain practical advantages in that the information collected on the post-enumeration survey form included a statement of the precise date of birth and the village or town of birth as well as the name of the person concerned. These particulars are the main ones needed to make a successful searching operation possible for the great majority of people.

The main group where further information was needed for a successful search were those women who have ever married whose surname would usually differ from their maiden name. For every woman whose child or children were enumerated with her, the entry of the child's birth in the registration records would be sought. Such an entry would immediately provide the maiden name of the mother. The date of current marriage was returned on the schedule for every married woman, irrespective of whether any children were enumerated with her. A search could be made in the marriage records to obtain her name prior to her current marriage. For women who had married more than once and who were widowed or divorced at the time of the census (so that only the date of the first marriage was available) and who had none of their children enumerated with them, the information was not sufficient to search successfully in the marriage records. No search was taken beyond 10 years either side of the stated age.

In the 1951 exercise it was decided to exclude from the matching operation a dozen or so of common surnames such as Smith, Jones, Brown etc. and a few others where there might be confusion, such as Davies with Davis, Clarke with Clark. In 1961 such names were not excluded although separate counts were made at the early stages of processing and these appear in Table 16. It was found that there were no significant differences between the results from people with common or confusing names and people with other names. The separate results from the two groups have therefore been combined in the results which are presented here.

A summary of the results is given in Table 16 which gives separate figures for people born in England and people born in Wales, and within these groups the people with common or confusing names are separately identified. The upper section of Table 16 relates to the comparison between the age given on the census schedule and the age derived from date of birth in the registration records and the lower section of Table 16 provides a similar comparison between the age derived from the date of birth given on the post-enumeration form and the age derived from date of birth in the registration records.

The total size of the sample used in the birth matching exercise was 18,507 people (8,925 males and 9,582 females). Of these 2 per cent were born outside England and Wales and hence it was not possible to match them in the registration records. There was a failure to find a match for another 3.6 per cent of the sample using the census schedule statement of age. In the comparison using the post-enumeration survey, the proportion where a match was not made rose to 5.3 per cent, being augmented by the people for whom an inadequate reply was received on the post-enumeration survey. People who refused to co-operate in the post-enumeration survey or who were not contacted by the post-enumeration survey interviewer have been excluded from the whole exercise.

Among the statements given at the census, 94 per cent were confirmed as being correct to the nearest completed year; for 66 per cent the agreement was as near to being exact as the census schedule statement in terms of years and months would allow. The remainder of the group whose stated age agrees to the nearest completed year tended to over-state their age rather than under-state it (22 per cent compared with 6 per cent). The majority of the errors of less than a year were errors of a month. This was consistent with the age in years and months being calculated by subtracting the year and month of birth from April 1961. This simple sum would produce over-statement of a month for people born between

Type of case		Checked																										
		Successfully																							Unsuccessfully			
		True age less than stated age by (years)										True age agrees with stated age		True age more than stated age by (years)										Total				
10	9	8	7	6	5	4	3	2	1	Less than -1 year	Exactly	Less than +1 year	1	2	3	4	5	6	7	8	9	10	Total		Born outside England and Wales	Not traced	Total	
I. Stated age from census schedule																												
Total		5	2	4	1	3	6	5	15	50	468	3,822	11,559	996	359	55	22	12	5	5	3	1	3	11	17,412	426	669	18,507
Born in England - common names		1	-	-	-	1	-	1	1	1	12	133	344	34	2	-	-	-	-	-	-	-	-	-	530	-	11	541
Born in England - other names		2	-	2	-	2	1	-	5	24	183	1,671	4,831	429	129	20	8	3	3	1	1	-	2	4	7,421	209	161	7,791
Born in Wales - common names		-	-	-	-	-	-	-	-	-	4	31	86	7	1	-	-	-	1	-	-	-	-	-	130	-	6	136
Born in Wales - other names		-	-	-	-	-	1	-	-	-	19	101	292	22	7	5	-	1	-	-	-	-	1	-	449	-	8	457
Total		3	-	2	-	3	2	1	6	25	218	1,936	5,653	492	139	25	8	4	3	2	1	-	2	5	8,530	209	186	8,925
II. Stated age from post-enumeration survey																												
Total		6	1	3	-	3	1	3	7	37	246	670	14,911	665	435	51	25	7	5	4	4	2	2	18	17,106	426	975	18,507
Males																												
Born in England - common names		-	-	-	-	1	-	-	-	-	6	32	464	19	6	1	-	-	-	-	-	-	-	-	529	-	12	541
Born in England - other names		2	-	1	-	1	-	1	2	14	87	268	6,418	279	174	16	7	3	2	-	1	2	7	7,285	209	287	7,791	
Born in Wales - common names		-	-	-	-	-	-	-	-	-	2	8	102	6	-	-	-	-	-	-	-	-	1	123	-	13	136	
Born in Wales - other names		-	-	-	-	-	-	-	-	1	8	24	380	20	8	1	1	-	-	-	-	-	-	-	443	-	14	457
Total		2	-	1	-	2	-	1	2	15	103	332	7,364	324	192	18	8	3	2	-	1	2	8	8,380	209	336	8,925	
Females																												
Born in England - common names		1	1	-	-	-	-	-	-	1	6	15	461	23	12	3	1	-	-	-	-	-	-	1	525	-	24	549
Born in England - other names		3	-	1	-	1	1	2	5	18	125	286	6,584	284	217	25	14	3	3	3	1	-	8	7,587	217	550	8,354	
Born in Wales - common names		-	-	-	-	-	-	-	-	-	1	15	118	14	3	1	1	-	-	-	-	-	-	1	154	-	12	166
Born in Wales - other names		-	-	1	-	-	-	-	-	3	11	22	384	20	11	4	1	1	-	1	1	-	-	-	460	-	53	513
Total		4	1	2	-	1	1	2	5	22	143	338	7,547	341	243	33	17	4	3	4	1	-	10	8,726	217	639	9,582	

the 24th of the month and the end of the month. The errors of a year were slightly weighted towards over-statement. The larger differences were not numerous enough to present any firm conclusions to be drawn.

The separate distributions for men and women were generally similar though the tendency to over-statement by a year rather than under-statement was not present to any significant degree for women.

The lower part of Table 16 provides a similar comparison in which the stated age is taken from the post-enumeration survey form. The question there asked for the date of birth and as would be expected this produced a considerable increase in the proportion of exact agreements; 87 per cent compared with 66 per cent where the stated age was taken from the census schedule. The proportion agreeing to within a completed year was very slightly higher; 95 per cent compared with 94 per cent, though the difference was too small to be significant. There was a reduction in the proportion who over-stated their age by a year (1.4 per cent compared with 2.7 per cent for the census schedule statement), but there was little difference in the proportion under-stating their age by a year. The general effect of asking for date of birth rather than age was to produce some improvement in the quality of the answers. The main improvement was, however, in the proportion giving exact agreement which is of little practical importance when census tabulations of age were not made to finer detail than whole completed years.

Table 17 Comparison of Census with Birth Registers:
Errors in age by 5-year groups

England and Wales

Excess or deficiency of age at census as compared with birth register (in years)	Age group as derived from birth register																		Total
	0-4	5-9	10- 14	15- 19	20- 24	25- 29	30- 34	35- 39	40- 44	45- 49	50- 54	55- 59	60- 64	65- 69	70- 74	75- 79	80- 84	85 or more	
Males																			
Excess																			
10 or more	-	1	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	3
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
8	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	2
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
6	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-	-	-	-	3
5	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	2
4	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3	-	-	-	-	1	-	-	1	-	-	1	-	-	1	-	1	1	-	6
2	-	-	1	1	3	-	3	1	1	4	2	3	1	2	2	-	-	1	25
1	7	8	7	15	8	15	19	24	11	16	16	23	18	8	12	4	6	1	218
0	648	623	728	659	500	504	507	591	522	541	604	530	407	312	193	137	56	19	8,081
Deficiency																			
1	1	2	3	4	5	15	12	11	9	15	17	8	10	10	6	7	3	1	139
2	-	1	-	-	1	-	1	1	4	4	4	5	-	-	2	1	1	-	25
3	-	-	-	1	1	-	1	-	-	1	1	-	1	1	-	1	-	-	8
4	-	-	-	-	-	-	-	-	-	-	2	2	-	-	-	-	-	-	4
5	-	-	-	-	-	1	-	-	-	1	-	-	1	-	-	-	-	-	3
6	-	-	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-	2
7	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	2
10 or more	-	-	-	-	-	-	-	-	-	-	1	3	-	-	1	-	-	-	5
Total	656	635	739	680	520	536	545	629	547	585	650	576	440	335	216	151	68	22	8,530
Females																			
Excess																			
10 or more	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	-	2
9	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	2
8	-	-	-	-	1	-	-	-	-	-	-	-	1	-	-	-	-	-	2
7	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	2	-	-	-	-	1	-	-	-	-	-	1	-	-	4
4	-	-	-	-	-	-	-	1	1	-	-	1	-	-	1	-	-	-	4
3	-	1	-	-	1	-	-	-	-	-	2	2	-	1	1	1	-	-	9
2	1	-	-	-	2	2	1	-	3	1	3	3	1	2	-	5	1	-	25
1	11	7	4	13	5	8	20	28	21	26	23	18	16	17	13	10	8	2	250
0	651	550	736	594	482	489	527	589	551	629	580	544	459	352	244	174	105	40	8,296
Deficiency																			
1	1	2	4	1	10	16	11	16	17	21	34	24	23	17	8	8	4	3	220
2	-	-	-	-	-	1	1	2	2	5	1	5	2	2	2	4	3	-	30
3	-	-	-	-	-	-	-	-	-	2	3	3	-	2	1	-	2	1	14
4	-	-	-	-	-	-	-	1	-	1	1	1	1	-	1	-	1	1	8
5	-	-	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	2
6	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	3
7	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1	-	2
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
9	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
10 or more	-	-	-	-	-	-	-	2	-	-	1	-	1	-	2	-	-	-	6
Total	664	560	744	608	504	516	560	640	595	688	648	603	507	394	274	203	127	47	8,882

Table 17 shows the distribution of errors in age statements on the census schedule classified by quinary age groups of correct age. The numbers included in the whole sample are too small to permit the drawing of firm conclusions but there was a tendency for the age statements to be most accurate for children and, though this was less clear, to be a little worse for middle aged men and for middle aged and elderly women. In all age groups the concentration of errors in the single year of mis-statement was marked. For both males and females over-statement exceeds under-statement for those under 20.

Table 18 gives similar comparison in terms of the age as derived from the statement of date of birth on the post-enumeration form. Again the numbers are too small to permit clear conclusions to be drawn about the variation of age mis-statement according to age. The predominance of errors of a single year is clear but there were some interesting differences between the figures in this table and in Table 17. For males the single year over-statements clearly exceeded the corresponding under-statements when the census schedule statement was being considered. On the post-enumeration survey the single year under-statements clearly exceed the corresponding over-statements. For females, on the other hand, the approximate equality of single year over-statements and under-statements already noted for the census schedule comparison yielded to a clear

Table 18 Comparison of Post-enumeration survey with Birth Registers: Errors in age by 5-year groups England and Wales

Excess or deficiency of age at P.E.S. as compared with birth register (in years)	Age group as derived from birth register																		Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 or more	
Males																			
Excess																			
10 or more	-	-	-	-	1	-	-	1	-	-	-	-	-	-	-	-	-	-	2
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	2
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
3	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1	-	-	2
2	-	1	-	-	1	1	1	-	1	1	1	4	2	1	1	-	-	-	15
1	9	6	5	6	6	6	8	13	3	11	4	7	3	3	7	3	2	1	103
0	622	595	711	655	495	504	516	581	527	546	615	538	405	305	189	134	60	27	8,020
Deficiency																			
1	9	16	14	12	6	12	13	15	13	18	13	12	12	9	6	5	3	2	192
2	1	1	-	-	-	-	1	2	-	3	4	1	-	2	1	1	1	-	18
3	-	-	-	-	1	-	-	-	-	-	-	2	1	2	1	1	-	-	8
4	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	1	-	-	3
5	-	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	2
6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
9	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	2
10 or more	-	-	-	-	1	-	-	1	-	1	1	-	1	-	2	1	-	-	8
Total	641	621	730	673	511	524	540	615	540	580	641	565	424	322	209	148	66	30	8,380
Females																			
Excess																			
10 or more	-	-	-	-	-	-	-	-	1	-	-	-	-	2	-	1	-	-	4
9	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
8	-	-	1	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	2
7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
5	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
4	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	2
3	-	-	-	-	-	-	-	-	-	-	1	2	-	-	-	1	-	-	5
2	1	-	1	1	-	1	-	1	3	1	3	1	3	1	2	3	-	-	22
1	3	7	8	5	6	5	9	7	10	14	8	20	10	13	9	5	4	-	143
0	640	536	714	588	476	493	534	591	547	643	604	520	453	329	247	170	106	35	8,226
Deficiency																			
1	6	8	10	5	12	9	11	23	19	15	17	30	24	24	9	9	7	5	243
2	-	-	-	-	-	-	-	1	2	5	5	4	4	5	2	2	2	1	33
3	-	1	-	-	-	-	-	3	-	1	3	2	1	2	1	-	2	1	17
4	-	-	-	-	-	1	-	-	-	-	-	1	-	-	1	-	-	1	4
5	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	1	-	-	3
6	-	-	-	1	-	-	-	-	-	1	-	1	-	-	-	-	1	-	4
7	-	1	-	1	-	-	-	-	-	-	1	-	-	-	-	-	1	-	4
8	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	1
9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10 or more	-	-	-	-	-	-	1	2	1	-	1	-	-	2	1	2	-	-	10
Total	650	553	734	601	494	509	556	631	583	681	644	582	497	378	272	194	124	43	8,726

excess of under-statements. The comparison between the age given on the census schedule and the date given by the birth registration records combined two types of error. These were, firstly, a genuine mis-statement of age and, secondly, a mistake arising from an error in converting an age to a date of birth or vice versa. The comparison between the post-enumeration survey and the birth registration records which both involve the date of birth should have removed the second source of error. This comparison appears to suggest a basic, though not large, tendency for stated age to be less than true age. This tendency was strong enough to overcome the bias towards over-statement noted above for the census schedule comparison for those aged under 20.

Tables 19 and 20 give quinary age group distributions of the sample according to the stated age on the census schedule and the post-enumeration survey respectively and according to the true age obtained from the birth registration records. It has already been noted that the great majority of errors were of a single year, it was only to be expected that the impact of these discrepancies on a quinary age distribution would be small. A large proportion of single year errors would still produce an age within the same age group and those which shifted an age into an adjoining age group would be partly compensated by movements in the opposite direction. The net result was that in both Tables 19 and 20 the grouped age distributions on both bases were in very close agreement. For nearly all age groups the gross errors were also very small. What differences there were mainly involve a movement between adjoining age groups, the larger differences being trivial.

Table 19 Comparison of Census with Birth Registers: England and Wales
Comparison of grouped age distributions

Age group as derived from census	Age group as derived from birth register																		Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 or more	
Males																			
0-4	654	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	656
5-9	2	632	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	635
10-14	-	-	738	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	739
15-19	-	1	-	673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	674
20-24	-	-	-	6	518	2	-	-	-	-	-	-	-	-	-	-	-	-	526
25-29	-	-	-	-	2	530	1	-	-	-	-	-	-	-	-	-	-	-	533
30-34	-	-	-	-	-	3	533	1	-	-	-	-	-	-	-	-	-	-	537
35-39	-	-	-	-	-	1	11	623	1	1	-	-	-	-	-	-	-	-	637
40-44	-	-	-	-	-	-	-	5	541	8	1	-	-	-	-	-	-	-	555
45-49	-	-	-	-	-	-	-	-	5	572	6	3	-	-	-	-	-	-	586
50-54	-	-	-	-	-	-	-	-	-	3	639	13	-	-	-	-	-	-	655
55-59	-	-	-	-	-	-	-	-	-	1	4	558	2	-	-	-	-	-	565
60-64	-	-	-	-	-	-	-	-	-	-	-	2	432	4	1	-	-	-	439
65-69	-	-	-	-	-	-	-	-	-	-	-	5	330	2	-	-	-	-	337
70-74	-	-	-	-	-	-	-	-	-	-	-	-	1	1	210	2	-	-	214
75-79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	148	1	-	152
80-84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	65	-	66
85 or more	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	24
Total	656	635	739	680	520	536	545	629	547	585	650	576	440	335	216	151	66	24	8,530
Females																			
0-4	661	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	661
5-9	3	558	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	562
10-14	-	2	743	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	745
15-19	-	-	-	606	1	-	-	-	-	-	-	-	-	-	-	-	-	-	607
20-24	-	-	-	2	495	1	-	-	-	-	-	-	-	-	-	-	-	-	498
25-29	-	-	-	-	7	515	-	2	-	-	-	-	-	-	-	-	-	-	524
30-34	-	-	-	-	1	-	554	6	-	-	-	-	-	-	-	-	-	-	561
35-39	-	-	-	-	-	-	6	628	7	-	-	-	-	-	-	-	-	-	641
40-44	-	-	-	-	-	-	-	4	583	10	2	-	-	-	-	-	-	-	599
45-49	-	-	-	-	-	-	-	-	5	674	8	1	1	-	-	-	-	-	689
50-54	-	-	-	-	-	-	-	-	-	4	632	15	-	-	-	-	-	-	651
55-59	-	-	-	-	-	-	-	-	-	-	6	582	2	1	-	-	-	-	591
60-64	-	-	-	-	-	-	-	-	-	-	-	5	495	5	2	-	-	-	507
65-69	-	-	-	-	-	-	-	-	-	-	-	9	382	4	-	-	-	-	395
70-74	-	-	-	-	-	-	-	-	-	-	-	-	5	262	5	1	-	-	273
75-79	-	-	-	-	-	-	-	-	-	-	-	-	-	1	5	194	7	-	207
80-84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	4	119	1	125
85 or more	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	44	46
Total	664	560	744	608	504	516	560	640	595	688	648	603	507	394	274	203	129	45	8,882

The amount of under-statement and over-statement on the census schedule for each digit ending was examined and the results are shown in Table 21. To produce this table all errors in ages 0, 10, 20, 30, etc., were allocated to the digit ending 0 and similarly for all other ages. The arrangement of this table is a little unsatisfactory in that it is necessary to remember that shifts of a single digit between 0 and 9 have to be shown in widely separated columns and lines.

Table 20 Comparison of Post-enumeration survey with Birth Registers:
Comparison of grouped age distributions

England and Wales

Age group as derived from P.E.S.	Age group as derived from birth register																		Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85 or more	
Males																			
0-4	639	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	644
5-9	2	613	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	616
10-14	-	2	728	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	732
15-19	-	1	1	669	1	-	-	-	-	-	-	-	-	-	-	-	-	-	672
20-24	-	-	-	3	505	2	-	-	-	-	-	-	-	-	-	-	-	-	510
25-29	-	-	-	-	3	520	4	2	-	1	-	-	-	-	-	-	-	-	530
30-34	-	-	-	-	-	2	531	4	-	-	-	-	-	-	-	-	-	-	537
35-39	-	-	-	-	-	-	5	604	4	-	-	-	-	-	-	-	-	-	613
40-44	-	-	-	-	1	-	-	4	534	7	1	-	-	-	-	-	-	-	547
45-49	-	-	-	-	-	-	-	1	2	570	7	-	-	-	-	-	-	-	580
50-54	-	-	-	-	-	-	-	-	-	2	632	5	1	-	-	-	-	-	640
55-59	-	-	-	-	-	-	-	-	-	-	1	557	2	-	-	-	-	-	560
60-64	-	-	-	-	-	-	-	-	-	-	-	3	420	4	2	-	-	-	429
65-69	-	-	-	-	-	-	-	-	-	-	-	-	1	318	3	1	-	-	323
70-74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	202	4	-	-	206
75-79	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	142	1	-	145
80-84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	64	1	66
85 or more	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	29	30
Total	641	621	730	673	511	524	540	615	540	580	641	565	424	322	209	148	66	30	8,380
Females																			
0-4	650	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	652
5-9	-	549	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	552
10-14	-	2	729	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	733
15-19	-	-	1	597	3	-	-	-	-	-	-	-	-	-	-	-	-	-	601
20-24	-	-	1	2	490	1	1	-	-	-	-	-	-	-	-	-	-	-	495
25-29	-	-	-	-	1	508	3	2	1	-	-	-	-	-	-	-	-	-	515
30-34	-	-	-	-	-	-	549	8	-	-	-	-	-	-	-	-	-	-	557
35-39	-	-	-	-	-	-	3	618	8	-	-	-	-	-	-	-	-	-	629
40-44	-	-	-	-	-	-	-	3	571	7	3	-	-	-	-	-	-	-	584
45-49	-	-	-	-	-	-	-	-	2	669	9	1	-	-	-	-	-	-	681
50-54	-	-	-	-	-	-	-	-	1	5	628	11	-	-	-	-	-	-	645
55-59	-	-	-	-	-	-	-	-	-	-	4	567	2	2	-	-	-	-	575
60-64	-	-	-	-	-	-	-	-	-	-	-	3	492	5	1	2	-	-	503
65-69	-	-	-	-	-	-	-	-	-	-	-	-	2	368	6	-	-	-	376
70-74	-	-	-	-	-	-	-	-	-	-	-	-	1	1	264	5	1	-	272
75-79	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	185	6	-	194
80-84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	117	2	120
85 or more	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	41	42
Total	650	553	734	601	494	509	556	631	583	681	644	582	497	378	272	194	124	43	8,726

Table 21 Comparison of Census with Birth Registers:
Digital errors

England and Wales

Digit ending according to birth register	Digit ending according to census										Total
	0	1	2	3	4	5	6	7	8	9	
Males											
0	880	20	5	1	-	1	1	-	1	7	916
1	12	808	21	1	2	-	1	-	-	2	847
2	3	11	868	18	3	-	-	1	2	1	907
3	2	6	23	835	22	1	-	1	-	2	892
4	-	1	2	13	778	23	3	-	-	-	820
5	-	1	1	8	15	808	26	2	-	-	861
6	1	-	-	-	1	15	784	24	2	1	828
7	2	1	1	1	-	2	13	759	31	4	814
8	3	-	-	1	-	2	2	17	789	19	833
9	16	1	1	-	-	-	1	-	13	780	812
Total Percentage agreement	919	849	922	878	821	852	831	804	838	816	8,530
	95.7	95.3	94.1	95.1	94.8	94.9	94.4	94.4	94.4	95.6	94.8
Females											
0	896	17	1	2	1	-	1	-	2	19	939
1	20	870	27	3	3	2	1	-	4	4	934
2	5	24	855	31	1	2	-	-	1	1	920
3	2	2	26	854	20	2	-	-	1	-	907
4	2	-	-	25	869	27	6	-	-	-	929
5	1	1	1	7	20	793	33	2	2	2	862
6	-	-	-	2	4	22	829	26	4	-	887
7	-	1	2	1	3	3	19	776	27	3	835
8	3	2	-	1	2	3	4	17	774	28	834
9	15	2	-	1	-	-	-	1	29	787	835
Total Percentage agreement	944	919	912	927	923	854	893	822	844	844	8,882
	94.9	94.7	93.8	92.1	94.1	92.9	92.9	94.4	91.7	94.3	93.5

The differences noted earlier are reflected in Table 21 by the concentration of differences in the diagonal band across the table. This table indicates that the amount of mis-statement did not vary on the whole according to the digit ending of the age. The percentage of agreement is shown for each digit ending for each sex. There is a general indication that the percentage agreement was slightly lower for women than for men.

A comparison of the distributions of digit endings shows no significant difference between the distribution of digit endings for ages as stated on the census schedule and according to the birth registers.

Graduation of age distribution in 1961 Census

In the analysis of a number of recent censuses it has been noticed that the single year age distribution of the enumerated population contained certain peculiarities which arose as the net result of accidental or deliberate mis-statement and errors in processing the data. There have appeared to be, for example, preferences for certain digit endings, 0 being a particularly favoured example. It seemed likely that some of these errors arose because the age information was supplied by someone other than the individual concerned. This other person may not have known or been able to discover the person's precise age and therefore guessed it. There is probably a tendency in these circumstances to guess a round age such as 40 or 50 and this would show up in a single year age distribution of the population.

For detailed work it is desirable to eliminate any such irregularities which have the effect of concealing the true age distribution and such a procedure, known as age graduation, was carried out on the 1961 Census figures. The results were published in Table 8 of the *Age, Marital Condition and General Tables* together with the age distribution as originally returned.

The basis of the method used was the computation of the "birth ratios" which were the ratios of the stated population of a given age to the original births which would give rise to that population i.e. the total number of people born who would have reached that age if they had lived long enough. Smoothing such birth ratios ensures that any irregularities in the age structure of the population which stem from annual variations in the numbers of births are carried through into the graduated population. For the population aged 0 to 73 the first step was to compute birth ratios using related live births i.e. births in successive twelve month periods ending on the 23rd April of each year.

Before dividing the enumerated population by the relevant births, an allowance had to be made for the age distribution of the Armed Forces, since members of the Armed Forces who were born in England and Wales but who were serving overseas at census date would not be included in the enumerated population. On the other hand the enumerated population would include members of the allied Armed Forces who were stationed in England and Wales and also members of the United Kingdom Armed Forces stationed in England and Wales but who were not born in England and Wales.

It was therefore necessary to make a careful estimate of the excess of the contribution of England and Wales to the Armed Forces of the United Kingdom over all armed forces (including Commonwealth and foreign) enumerated in England and Wales.

When this adjustment for the Armed Forces had been made a set of birth ratios was worked, separate sets being computed for males and females. It was then found that certain irregularities appeared in the birth ratios between the ages of 10 and 25. These irregularities stemmed from two causes. The first was the emigration at the end of the second world war of children of Commonwealth and allied servicemen who had been born in England and Wales during the war. The second disturbing factor was the surge in immigration in the few years immediately before the 1961 Census which had artificially inflated the birth ratios for young adults. Adjustments were therefore made for these two elements.

The birth ratios so produced were then plotted and smoothed manually. The original ratios and the smoothed ratios were then differenced and these differences multiplied by the related births to produce a set of numerical differences which could be applied to the enumerated populations of males and females. These were then further adjusted in the 30-73 age range in order that the total adjustments for the under 73 group should sum to zero so that the total of the graduated populations and the enumerated populations should be identical. The correction procedure was restricted to the 30-73 age range because it was appreciated that below age 30 the number and the age distribution of the Armed Forces and migrants was not known exactly.

For children under 5 estimates of the numbers of births, deaths and migrants for years ending 23rd April were made. These were used to produce an estimate of

the true population at census date. This was used as it stood for ages 0-2 while for ages 3 and 4 the average of this figure and the graduated population worked by the method used for ages up to 73 in general was used.

For ages 72 and over the enumerated population itself was plotted and smoothed by hand and then further adjustments were made to ensure that the sums of original and smoothed populations were identical. There were then two estimates for ages 72 and 73 and the average of these was adopted.

The adjusted graduated population was then controlled to the total population at census date (i.e. the enumerated population plus the Armed Forces) and from this controlled total the Armed Forces overseas were subtracted to produce a graduated home population. One final adjustment was made by subtracting 10 thousand from the graduated populations of each sex at age 41 and adding it to the population aged 42. These final adjustments stemmed from the difficulty in estimating the related live births which occurred during the sharp rise in births immediately after the first world war. In addition there appears to have been a particularly large number of age mis-statements at these ages.

The results of this graduation are shown in Table 22 which repeats from Table 8 in the *Age, Marital Condition and General Tables*, the enumerated and graduated populations together with the numerical and proportional differences between them.

Table 22 shows the shortfall in enumerated population for children under 5, and the relatively high population enumerated at ages 50, 35, 30, 52 and 49 for men, with shortages at ages 43, 44, 41 and 61. For women too many were stated to be aged 30, 40, 50, 60, 70, 52, 65, 35 and 38, with too few at 51, 71, 43, 44, 55, 47 and 57. There are some signs of digital preference or avoidance in the ages with extreme discrepancies quoted here.

The differences between the enumerated population and the graduated population were summed for each digit and expressed as a proportion of the graduated population with that digit ending. The results of this were as follows:-

Percentage difference		
Digit	Males	Females
0	1.24	1.94
1	-0.90	-1.33
2	0.00	0.23
3	-0.68	-0.46
4	-0.18	-0.24
5	0.70	0.28
6	0.05	-0.07
7	-0.56	-0.92
8	0.18	0.48
9	0.14	0.03

For all digit endings except 6, where the proportions were very small, the males and females showed discrepancies in the same direction. The greatest excess of the enumerated population compared with the graduated was for digit ending 0 and smaller excesses were present for digit endings 5 (mainly for males) and 8 (mainly for females). The largest shortage of the enumerated population compared with the graduated was for digit ending 1 where there was probably a balancing shift to compensate for the excess at 0. Smaller deficiencies were present for digit ending 3 and 7.

Comparison with death registration records

For people who died soon enough after census date to make it unlikely that their address at death differed from their address at census it was possible to match the information given at the census with the information given at death registration. A matching exercise was therefore mounted for all deaths during May and June, 1961, of people under 75 years of age at the time of death. Deaths of very young children who would not have been alive at census date were excluded. The document used for the matching operation was a copy of the Form 310, the draft entry form used at death registration. This form includes information on the name, age and sex of the individual, their usual residence at time of death as well as the address where the death took place. The occupation of the deceased also appears on the draft entry form.

A total of 44,964 persons were included in the matching operation, and of these 41,170 (91.6 per cent) were found. 3,574 people were not found although the address they gave was found with a household present at the census. A further 153 people gave an address where either the household was absent at census

Table 22 Comparison of Enumerated and Graduated Population

England and Wales

Age last birthday	Enumerated population			Graduated population					
	Persons	Males	Females	Males			Females		
				Graduated home population (thousands)	Net excess or deficiency of enumerated		Graduated home population (thousands)	Net excess or deficiency of enumerated	
					Thousands	Per cent		Thousands	Per cent
All ages	46,104,548	22,303,833	23,800,715	22,303.8	-	-	23,800.7	-	-
0	764,371	393,236	371,135	399.0	-5.8	-1.5	376.7	-5.6	-1.5
1	725,169	372,495	352,674	379.0	-6.6	-1.8	358.3	-5.6	-1.6
2	721,536	369,908	351,628	373.3	-3.4	-0.9	354.2	-2.6	-0.7
3	707,760	362,720	345,040	364.4	-1.6	-0.4	345.7	-0.6	-0.2
4	678,185	347,782	330,403	348.9	-1.1	-0.3	331.3	-0.9	-0.3
0-4	3,597,021	1,846,141	1,750,880	1,864.6	-18.5	-1.0	1,766.2	-15.3	-0.9
5	658,521	337,820	320,701	337.0	0.8	0.2	320.0	0.7	0.2
6	646,553	331,083	315,470	330.1	1.0	0.3	314.4	1.1	0.3
7	659,936	337,811	322,125	337.7	0.1	0.0	322.3	-0.2	-0.1
8	647,952	331,404	316,548	331.8	-0.4	-0.1	316.4	0.1	0.0
9	649,324	332,502	316,822	331.8	0.7	0.2	316.6	0.2	0.1
5-9	3,262,286	1,670,620	1,591,666	1,668.5	2.1	0.1	1,589.7	2.0	0.1
10	665,460	341,028	324,432	340.5	0.6	0.2	324.2	0.3	0.1
11	694,486	355,491	338,995	355.5	0.0	0.0	338.7	0.3	0.1
12	725,428	372,110	353,318	371.8	0.4	0.1	353.0	0.3	0.1
13	797,939	407,902	390,037	407.5	0.4	0.1	389.7	0.3	0.1
14	841,851	430,772	411,079	431.0	-0.2	-0.1	411.1	0.0	0.0
10-14	3,725,164	1,907,303	1,817,861	1,906.2	1.1	0.1	1,816.7	1.2	0.1
15	648,382	331,632	316,750	330.8	0.8	0.3	316.1	0.7	0.2
16	682,775	348,612	334,163	347.8	0.8	0.2	333.6	0.6	0.2
17	660,830	336,109	324,721	336.5	-0.4	-0.1	325.6	-0.9	-0.3
18	637,377	321,028	316,349	320.7	0.3	0.1	315.6	0.7	0.2
19	571,296	284,581	286,715	284.8	-0.2	-0.1	284.9	1.8	0.6
15-19	3,200,660	1,621,962	1,578,698	1,620.6	1.4	0.1	1,575.8	2.9	0.2
20	550,048	274,226	275,822	274.4	-0.1	-0.0	276.4	-0.5	-0.2
21	579,996	285,908	294,088	281.4	4.5	1.6	292.1	2.0	0.7
22	582,518	287,509	295,009	287.9	-0.4	-0.1	294.8	0.2	0.1
23	585,780	293,133	292,647	294.1	-1.0	-0.3	294.1	-1.4	-0.5
24	579,947	293,615	286,332	293.1	0.5	0.2	286.1	0.2	0.1
20-24	2,878,289	1,434,391	1,443,898	1,430.8	3.6	0.3	1,443.4	0.5	0.0
25	575,342	291,571	283,771	290.6	1.0	0.3	283.5	0.2	0.1
26	567,770	288,988	278,782	288.7	0.3	0.1	278.6	0.2	0.1
27	554,682	282,374	272,308	281.0	1.4	0.5	272.1	0.2	0.1
28	567,447	288,059	279,388	289.3	-1.2	-0.4	280.2	-0.8	-0.3
29	580,920	294,991	285,929	297.0	-2.0	-0.7	288.2	-2.2	-0.8
25-29	2,846,161	1,445,983	1,400,178	1,446.6	-0.7	-0.0	1,402.6	-2.4	-0.2
30	613,549	310,710	302,839	303.2	7.5	2.4	296.1	6.8	2.2
31	585,664	294,255	291,409	297.2	-3.0	-1.0	292.7	-1.3	-0.5
32	591,218	296,458	294,760	298.2	-1.8	-0.6	294.0	0.7	0.2
33	583,458	293,471	289,987	295.9	-2.4	-0.8	292.9	-2.9	-1.0
34	610,426	306,746	303,680	303.4	3.4	1.1	302.2	1.5	0.5
30-34	2,984,315	1,501,640	1,482,675	1,497.9	3.7	0.2	1,477.9	4.8	0.3
35	633,056	318,543	314,513	310.0	8.5	2.7	310.0	4.5	1.4
36	623,906	312,363	311,543	313.4	-1.1	-0.3	312.4	-0.9	-0.3
37	632,467	314,954	317,513	319.3	-4.3	-1.4	320.3	-2.8	-0.9
38	653,610	323,676	329,934	323.4	0.3	0.1	324.7	5.2	1.6
39	698,845	346,656	352,189	347.5	-0.8	-0.2	349.5	2.7	0.8
35-39	3,241,884	1,616,192	1,625,692	1,613.5	2.7	0.2	1,617.0	8.7	0.6
40	754,501	373,707	380,794	369.0	4.7	1.2	373.1	7.7	2.0
41	688,422	340,686	347,736	345.5	-4.8	-1.4	351.0	-3.2	-0.9
42	522,403	255,049	267,354	257.8	-2.7	-1.1	263.6	3.8	1.4
43	499,680	244,317	255,363	251.6	-7.3	-3.0	260.3	-4.9	-1.9
44	571,580	280,062	291,518	287.5	-7.4	-2.6	298.5	-7.0	-2.4
40-44	3,036,586	1,493,821	1,542,765	1,511.4	-17.6	-1.2	1,546.4	-3.6	-0.2
45	607,229	299,021	308,208	296.9	2.1	0.7	308.0	0.2	0.1
46	660,892	323,358	337,534	324.3	-0.9	-0.3	340.0	-2.4	-0.7
47	656,498	321,458	335,040	324.5	-3.1	-1.0	340.8	-5.8	-1.7
48	655,820	320,579	335,241	316.9	3.7	1.1	332.0	3.2	1.0
49	648,314	319,384	328,930	313.7	5.7	1.8	328.7	0.3	0.1
45-49	3,228,753	1,583,800	1,644,953	1,576.4	7.4	0.5	1,649.4	-4.4	-0.3
50	670,464	328,674	341,790	314.5	14.2	4.3	330.5	11.3	3.3
51	630,853	310,708	320,145	314.2	-3.5	-1.1	330.7	-10.6	-3.3
52	656,672	321,318	335,354	315.4	5.9	1.8	330.7	4.6	1.4
53	638,694	311,504	327,190	312.5	-1.0	-0.3	327.6	-0.4	-0.1
54	624,409	303,195	321,214	303.0	0.2	0.1	319.7	1.5	0.5
50-54	3,221,092	1,575,399	1,645,693	1,559.5	15.9	1.0	1,639.2	6.5	0.4

Table 22 Comparison of Enumerated and Graduated Population - continued

Age last birthday	Enumerated population			Graduated population					
	Persons	Males	Females	Males			Females		
				Graduated home population (thousands)	Net excess or deficiency of enumerated		Graduated home population (thousands)	Net excess or deficiency of enumerated	
					Thousands	Per cent		Thousands	Per cent
55	602,592	292,586	310,006	294.3	-1.7	-0.6	314.9	-4.9	-1.6
56	602,877	290,988	311,889	289.5	1.5	0.5	313.4	-1.5	-0.5
57	585,170	281,574	303,596	284.7	-3.2	-1.1	311.4	-7.8	-2.6
58	581,008	278,153	302,855	277.1	1.0	0.4	302.6	0.3	0.1
59	556,115	264,541	291,574	265.8	-1.2	-0.5	291.7	-0.1	-0.0
55-59	2,927,762	1,407,842	1,519,920	1,411.4	-3.6	-0.3	1,533.9	-14.0	0.9
60	560,981	260,111	300,870	254.7	5.4	2.1	281.7	19.2	6.4
61	509,938	233,560	276,378	238.0	-4.5	-1.9	279.7	-3.3	-1.2
62	478,853	212,081	266,772	211.9	0.2	0.1	270.8	-4.1	-1.5
63	460,618	198,466	262,152	200.6	-2.1	-1.1	262.9	-0.7	-0.3
64	447,688	192,088	255,600	192.0	0.1	0.1	257.0	-1.4	-0.5
60-64	2,458,078	1,096,306	1,361,772	1,097.1	-0.8	-0.1	1,352.1	9.7	0.7
65	431,337	180,688	250,649	177.4	3.2	1.8	245.4	5.3	2.1
66	406,461	169,174	237,287	171.3	-2.1	-1.2	239.7	-2.4	-1.0
67	394,792	163,724	231,068	163.8	0.1	-0.1	232.0	-0.9	-0.4
68	385,065	157,942	227,123	157.8	0.2	0.1	225.9	1.2	0.5
69	361,123	147,396	213,727	147.2	0.2	0.1	215.5	-1.8	-0.9
65-69	1,978,778	818,924	1,159,854	817.6	1.3	0.2	1,158.5	1.4	0.1
70	349,924	138,500	211,424	136.2	2.3	1.7	204.0	7.4	3.5
71	312,776	125,074	187,702	128.0	-2.9	-2.3	196.7	-9.0	-4.8
72	313,553	121,594	191,959	120.0	1.6	1.3	189.4	2.6	1.3
73	293,260	111,942	181,318	111.8	0.1	0.1	181.1	0.2	0.1
74	272,159	102,470	169,689	102.4	0.1	0.1	170.0	-0.3	-0.2
70-74	1,541,672	599,580	942,092	598.4	1.2	0.2	941.3	0.8	0.1
75	253,728	94,400	159,328	94.20	0.20	0.2	158.51	0.82	0.5
76	238,162	87,475	150,687	85.74	1.73	2.0	147.68	3.01	2.0
77	208,201	75,467	132,734	77.36	-1.90	-2.5	134.65	-1.92	-1.4
78	194,237	69,476	124,761	69.41	0.07	0.1	124.13	0.63	0.5
79	174,604	62,316	112,288	61.79	0.52	0.8	112.20	0.09	0.1
75-79	1,068,932	389,134	679,798	388.50	0.63	0.2	677.16	2.63	0.4
80	162,191	55,457	106,734	54.11	1.35	2.4	103.30	3.44	3.2
81	134,081	46,110	87,971	46.85	-0.74	-1.6	90.70	-2.73	-3.1
82	118,532	40,274	78,258	40.04	0.23	0.6	78.20	0.06	0.1
83	101,640	33,648	67,992	34.28	-0.63	-1.9	68.64	-0.65	-1.0
84	88,687	29,132	59,555	28.96	0.18	0.6	59.04	0.51	0.9
80-84	605,131	204,621	400,510	204.24	0.39	0.2	399.88	0.63	0.2
85	72,247	23,451	48,796	23.43	0.02	0.1	49.73	-0.93	-1.9
86	59,744	18,990	40,754	18.97	0.02	0.1	40.26	0.50	1.2
87	44,661	13,742	30,919	14.22	-0.48	-3.5	32.04	-1.12	-3.6
88	35,035	10,434	24,601	10.57	-0.14	-1.3	24.52	0.08	0.3
89	26,096	7,597	18,499	7.59	0.01	0.1	18.83	-0.33	-1.8
85-89	237,783	74,214	163,569	74.78	-0.57	-0.8	165.38	-1.81	-1.1
90	19,966	5,465	14,501	5.28	0.19	3.5	14.33	0.17	1.2
91	13,692	3,620	10,072	3.64	-0.02	-0.6	10.38	-0.31	-3.0
92	9,916	2,445	7,471	2.44	0.00	0.1	7.50	-0.03	-0.5
93	7,006	1,683	5,323	1.64	0.04	2.3	5.42	-0.10	-1.1
94	4,908	1,093	3,815	1.09	0.00	0.1	3.76	0.06	1.4
90-94	55,488	14,306	41,182	14.10	0.21	1.5	41.40	-0.22	-0.5
95	3,188	662	2,526	-	-	-	-	-	-
96	2,157	418	1,739	-	-	-	-	-	-
97	1,312	212	1,100	-	-	-	-	-	-
98	914	148	766	-	-	-	-	-	-
99	663	148	515	-	-	-	-	-	-
95-99	8,234	1,588	6,646	1.57	0.02	1.4	6.52	0.13	2.0
100	231	29	202	-	-	-	-	-	-
101	115	16	99	-	-	-	-	-	-
102	73	11	62	-	-	-	-	-	-
103	34	5	29	-	-	-	-	-	-
104	8	2	6	-	-	-	-	-	-
105	5	-	5	-	-	-	-	-	-
106	8	2	6	-	-	-	-	-	-
107	2	-	2	-	-	-	-	-	-
108	2	-	2	-	-	-	-	-	-
109	1	1	-	-	-	-	-	-	-
100 and over	479	66	413	0.09	-0.02	-31.8	0.42	-0.01	-1.7

or the dwelling was vacant at census. For a further 67 people it was not possible to find the address given. Among the people found 3,441 were enumerated as part of the ten per cent sample.

Table 23 shows the age discrepancies found in the death matching comparison. The proportion of agreements was 79 per cent for persons, and was slightly higher for men than women. 13 per cent of persons were recorded as older by a year at the time of death compared with 4 per cent understating their age. This difference was to be expected since those dying would be on average a month older at death than at census. Less than one per cent differed by more than 5 years. It is notable that there were 142 people with differences of 10 years or more. A small sample of these were carefully examined and it was confirmed that all the other evidence on the two forms suggested that a correct match had been made (with large differences, the suspicion naturally arises that in fact there has been an incorrect match made). Of the 29 people in this small sample, 20 had been enumerated in institutions, 10 of them in mental hospitals or chronic sick hospitals. This compares with 15 per cent of the whole death matching exercise who were enumerated in institutions and suggests that the standard of age reporting in such institutions may be worse than in the general population.

For both men and women the proportion of agreement tends to fall with advancing age, the deterioration being slightly greater for women for whom the proportion of agreement fell from 94.5 per cent for those under 15 to 73.8 per cent for those aged 65-74.

Table 23 Comparison of Census with Death Registers:
Errors in age by grouped age distributions

England and Wales

Excess or deficiency of age at death as compared with census age (in years)	Age group as derived from census										Total
	Males					Females					
	0-14	15-34	35-64	65 or more	Total	0-14	15-34	35-64	65 or more	Total	
<i>Excess</i>											
10 or more	1	4	32	-	37	1	1	31	-	33	70
9	-	-	9	1	10	-	-	15	1	16	26
8	-	-	6	1	7	-	-	7	2	9	16
7	-	1	5	2	8	-	-	13	2	15	23
6	1	-	11	2	14	-	-	10	10	20	34
5	-	-	13	6	19	-	2	12	12	26	45
4	-	2	16	7	25	-	-	28	14	42	67
3	-	-	42	22	64	-	-	45	39	84	148
2	1	4	102	83	190	-	2	100	163	265	455
1	53	100	1,567	1,222	2,942	28	49	1,092	1,382	2,551	5,493
0	736	719	9,662	8,483	19,600	535	396	5,514	6,481	12,926	32,526
<i>Deficiency</i>											
1	7	19	449	441	916	2	9	315	453	779	1,695
2	-	1	37	71	109	-	-	37	90	127	236
3	-	1	15	24	40	-	-	11	33	44	84
4	1	-	8	16	25	-	-	26	24	50	75
5	-	-	8	9	17	-	-	5	12	17	34
6	-	-	2	3	5	-	-	1	10	11	16
7	-	1	1	7	9	-	-	1	11	12	21
8	-	-	-	4	4	-	-	1	7	8	12
9	-	-	1	8	9	-	-	-	7	7	16
10 or more	-	-	6	30	36	-	-	3	33	36	72
Not stated	1	-	1	1	3	-	-	2	1	3	6
Total	801	852	11,993	10,443	24,089	566	459	7,269	8,787	17,081	41,170
<i>Percentage</i>											
Greater at death by more than 1 year	0.4	1.3	1.9	1.2	1.6	0.2	1.1	3.6	2.8	3.0	2.1
Less at death by more than 1 year	0.1	0.5	0.7	1.6	1.1	0.0	0.0	1.2	2.6	1.8	1.4
Agreement	91.9	84.4	80.6	81.2	81.3	94.5	86.3	75.9	73.8	75.7	79.0
Average discrepancy at death (years)	0.07	0.03	0.15	0.06	0.10	0.05	0.14	0.23	0.06	0.14	0.11

Table 24 shows the effect of the age discrepancies on the two five-year age distributions according to the census age statement and according to the statement at death registration. As would be expected with the low level of discrepancy the two distributions were similar if allowance is made at the oldest ages for the restriction of the comparison to those whose stated age at death was under 75.

Table 24 Comparison of Census with Death Registers:
Comparison of grouped age distributions

England and Wales

Age group as derived from census	Age group as derived from death register																Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	Not stated		
Males																		
0-4	554	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	557
5-9	1	134	2	-	1	-	-	-	-	-	-	-	-	-	-	-	-	138
10-14	-	-	100	6	-	-	-	-	-	-	-	-	-	-	-	-	-	106
15-19	-	-	-	219	4	-	-	-	-	-	-	-	-	-	-	-	-	223
20-24	-	-	-	1	186	7	-	-	-	-	-	-	-	-	-	-	-	194
25-29	-	-	-	1	1	184	5	-	-	-	-	2	-	-	-	-	-	193
30-34	-	-	-	-	-	3	225	12	-	1	-	-	1	-	-	-	-	242
35-39	-	-	-	-	-	-	5	368	19	4	-	-	-	-	-	-	-	396
40-44	-	-	-	-	-	-	-	8	585	51	1	3	3	-	-	-	-	651
45-49	-	-	-	-	-	-	-	1	11	1,067	42	3	3	-	-	-	1	1,128
50-54	-	-	-	-	-	-	-	-	1	15	2,049	76	10	-	-	-	-	2,151
55-59	-	-	-	-	-	-	-	-	-	1	31	3,138	92	10	-	-	-	3,272
60-64	-	-	-	-	-	-	-	-	-	-	3	39	4,206	138	9	-	-	4,395
65-69	-	-	-	-	-	-	-	-	-	-	-	5	39	4,845	151	1	-	5,041
70-74	-	-	-	-	-	-	-	-	-	-	-	-	-	50	5,221	-	-	5,271
75-79	-	-	-	-	-	-	-	-	-	-	-	2	-	12	97	-	-	111
80-84	-	-	-	-	-	-	-	-	-	-	-	1	5	-	10	-	-	16
85-89	-	-	-	-	-	-	-	-	-	-	-	-	-	1	2	-	-	3
90-94	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	1
All ages	555	136	102	227	192	194	235	389	616	1,139	2,126	3,269	4,360	5,056	5,490	3	24,089	
Females																		
0-4	406	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	406
5-9	-	94	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	95
10-14	-	-	65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65
15-19	-	-	-	87	-	-	-	-	-	-	-	-	-	-	-	-	-	87
20-24	-	-	-	1	98	1	-	-	-	-	-	-	1	-	-	-	-	101
25-29	-	-	-	-	1	102	3	-	-	-	-	-	-	-	-	-	-	106
30-34	-	-	-	-	-	-	158	7	-	-	-	-	-	-	-	-	-	165
35-39	-	-	-	-	-	-	-	293	17	2	-	-	-	-	-	-	-	312
40-44	-	-	-	-	-	-	1	5	463	26	5	-	-	-	-	-	-	500
45-49	-	-	-	-	-	-	-	-	9	772	43	6	-	-	-	-	-	830
50-54	-	-	-	-	-	-	-	-	-	9	1,187	61	6	-	-	-	-	1,263
55-59	-	1	-	-	-	-	-	-	-	1	30	1,650	78	6	-	-	-	1,766
60-64	-	-	-	-	-	-	-	-	-	-	1	14	2,419	139	23	2	-	2,598
65-69	-	-	-	-	-	-	-	-	-	-	1	3	62	3,444	189	-	-	3,699
70-74	-	-	-	-	-	-	-	-	-	-	-	-	6	52	4,851	1	-	4,910
75-79	-	-	-	-	-	-	-	-	-	-	-	-	-	5	142	-	-	147
80-84	-	-	-	-	-	-	-	-	-	-	-	-	3	2	23	-	-	28
85-89	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	-	2
90-94	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	1
All ages	406	95	65	88	99	103	162	305	489	810	1,267	1,734	2,575	3,650	5,230	3	17,081	

Marital condition

The check questions on marital condition appeared as section 5 of Form PES.3. Part A of this section combined the check on the marital condition of women with the check on their replies to the questions on date of first and current marriage and when the first marriage ended. The questions for men came at the end of this relatively lengthy set of questions for women. This was a somewhat unsatisfactory arrangement because it provoked a tendency for some interviewers to think that the whole of section 5 related only to women and hence to ignore the questions relating to men. This is thought to account for the high proportion of men for whom the check was unsuccessful. Table 25 shows that 509 men out of 7,333 (6.9 per cent) were checked unsuccessfully compared with 67 out of 8,195 women (0.8 per cent).

The results of the post-enumeration survey check on marital condition are given in Table 25 in which the first part gives the results for men and the second the results for women. The proportion of agreement between census schedule statement and the post-enumeration survey was high throughout being 99 per cent or higher for the single, married and widowed and apparently slightly lower (97 per cent) for the divorced, although the number of divorced is too low to show whether this difference was significant. As would be expected, comparison of the proportional distributions according to the two sets of statements shows no significant differences for either men or women, although for men there was a suggestion that there was some under-statement of widowed men with a tendency for some men who were actually widowed to be enumerated as single or married.

Table 25 Comparison of Census with Post-enumeration survey:
Marital condition

England and Wales

Marital condition as stated at census	Marital condition as derived from post-enumeration survey									
	Checked						Unchecked		Total	
	Successfully					Unsuccessfully	Total	No contact		Refusal
	Single	Married	Widowed	Divorced	Total					
Males										
Single	1,462	5	7	2	1,476	118	1,594	41	75	1,710
Married	10	5,048	6	1	5,065	367	5,432	129	165	5,726
Widowed	-	2	248	1	251	23	274	3	2	279
Divorced	1	-	-	31	32	1	33	2	2	37
Total	1,473	5,055	261	35	6,824	509	7,333	175	244	7,752
Females										
Single	1,499	-	2	1	1,502	33	1,535	51	68	1,654
Married	-	5,458	9	1	5,468	25	5,493	119	175	5,787
Widowed	1	1	1,079	1	1,082	8	1,090	61	39	1,190
Divorced	-	2	-	74	76	1	77	1	3	81
Total	1,500	5,461	1,090	77	8,128	67	8,195	232	285	8,712

Comparison with marital condition estimates

Before the series of annual population estimates according to marital condition could be adjusted to take account of the results of the 1961 Census, it was necessary to try and assess the causes of the differences between the census figures and the mid-1961 annual estimate. A full account of this exercise appears in Part III of the Registrar General's Statistical Review of England and Wales for 1963 (pages 21-27).

A considerable amount of the differences between the annual estimate and the census figures could be accounted for by the imperfect information on the marital condition of immigrants and emigrants between 1951 and 1961. Nevertheless there were points where the more likely explanation was that the census figures were in error. One example was the larger proportion of divorced people in the population estimate than in the enumerated census population. The difference was about 30 per cent for men aged 27 to 31 decreasing with age to the 50-54 age group and then increasing to reach 40 to 50 per cent for those aged 70-74. The proportional errors were less for women, being about 15 per cent at ages 30-34 and 5 per cent at 40, then increasing with age to about 30 per cent for those aged 70-74. It is possible that some of this error could have arisen not at the census but at remarriage from a failure of divorced people to state that they had been divorced. (They would not then be deducted from the estimate of the divorced population and would therefore make it too large). However, it seems likely that most of the difference arose from under-statement at the census. Whereas some check on previous marital condition is made at marriage, no questions were asked about the reply given on the census schedule; hence, there was no real obstacle to any desire to conceal, either from people in general or, in the case of a boarder, from other members of the household, the fact that a person was divorced. The fact that no such bias was found in the post-enumeration survey can be discounted since such an enquiry is unlikely to reveal errors in census information which have been made deliberately. Only errors which have been made by mistake or through misunderstanding are likely to be discovered by a post-enumeration survey.

The other point where the census figures seemed open to serious doubt was that the number of women aged 25-39 who described themselves as widowed was much higher in the census than would have been expected from the annual population estimates. For women of 30-34 the number of widows enumerated was more than double the number estimated. There is little factual evidence on this point; again the post-enumeration survey did not indicate any bias. It seems plausible that there may have been some tendency for single and divorced women enumerated with (illegitimate) children to return themselves as widowed.

On both these points more detailed information appears in the issue of the Registrar General's Statistical Review quoted above.

Comparison with death registration records

The comparison between the death registration material and the census information, already referred to with respect to age, was also used to compare the statements of marital condition. The results of this comparison are shown in Table 26.

Table 26 Comparison of Census with Death Registers:
Marital condition

England and Wales

Age group as derived from census	Marital condition as stated at census	Marital condition as stated in death register					
		Single	Married	Widowed	Divorced	Not stated	Total
Males							
15 - 34	Single	486	3	-	-	28	517
	Married	4	315	-	-	10	329
	Widowed	-	-	-	-	-	-
	Divorced	1	-	-	1	-	2
	Not stated	-	-	-	-	4	-
	Total	491	318	-	1	42	852
35 - 64	Single	1,203	47	35	16	58	1,359
	Married	31	9,693	49	12	104	9,889
	Widowed	7	22	571	5	17	622
	Divorced	2	10	6	83	5	106
	Not stated	3	9	1	-	4	17
	Total	1,246	9,781	662	116	188	11,993
65 and over	Single	692	32	71	4	33	832
	Married	18	7,564	118	8	63	7,771
	Widowed	18	32	1,724	7	31	1,812
	Divorced	-	2	2	13	5	22
	Not stated	1	4	-	-	1	6
	Total	729	7,634	1,915	32	133	10,443
Total (15 and over)	Single	2,381	82	106	20	119	2,708
	Married	53	17,572	167	20	177	17,989
	Widowed	25	54	2,295	12	48	2,434
	Divorced	3	12	8	97	10	130
	Not stated	4	13	1	-	9	27
	Total	2,466	17,733	2,577	149	363	23,288
Females							
15 - 34	Single	200	2	-	-	3	205
	Married	1	247	-	-	2	250
	Widowed	-	-	-	-	-	-
	Divorced	-	-	-	2	-	2
	Not stated	-	-	-	-	2	2
	Total	201	249	-	2	7	459
35 - 64	Single	1,041	4	6	2	5	1,058
	Married	6	4,920	37	14	13	4,990
	Widowed	2	8	1,119	6	2	1,137
	Divorced	-	7	5	66	4	82
	Not stated	-	1	1	-	-	2
	Total	1,049	4,940	1,168	88	24	7,269
65 and over	Single	1,249	8	14	1	6	1,278
	Married	1	3,497	90	2	9	3,599
	Widowed	17	18	3,818	13	2	3,868
	Divorced	-	5	8	27	1	41
	Not stated	-	-	1	-	-	1
	Total	1,267	3,528	3,931	43	18	8,787
Total (15 and over)	Single	2,490	14	20	3	14	2,541
	Married	8	8,664	127	16	24	8,839
	Widowed	19	26	4,937	19	4	5,005
	Divorced	-	12	13	95	5	125
	Not stated	-	1	2	-	2	5
	Total	2,517	8,717	5,099	133	49	16,515

This table shows that the level of agreement was high in most categories. The main discrepancy was in the number of people who were returned as widowed at death registration but as either single or married at the time of the census.

There were 106 men and 20 women who were stated to be single at the census and widowed at death registration and 167 men and 127 women returned as married at the census but widowed at death registration. A few of those married at census and widowed at death will be people who were widowed during the relatively short interval, but they would account for only a small proportion of the total. The great majority of these discrepancies were among those aged 65 to 74. The records of the 118 men in this age group who were "married" at the time of the census but "widowed" at death have been examined and some groups stand out:-

- (i) 33 were enumerated in institutions at the census. There is likely to be some element of unreliability here in the census record to the extent that elderly sick people cannot always be very helpful to those responsible for the completion of census schedules in institutions.
- (ii) 33 were recorded as married on the census schedule for the private household in which they were enumerated but no wife was recorded on the schedule. This group may represent a tendency noted elsewhere for widowed people to regard themselves as married, despite the death of their spouse. The lack of a record of the wife on the census schedule cannot of course be taken as a presumption that the wife no longer exists. On the ninety per

Table 27 Comparison of Census with Post-enumeration survey:
Marriage duration - Women with uninterrupted first marriage

[illegible]

cent schedule there was no call to return members of a household who were temporarily absent. The term widowed may have been used at death registration if the couple were in fact separated.

- (iii) 44 were recorded as married on the census schedule of the private household in which they were enumerated and their wife appeared on the schedule. While it is possible that some of this group were not married to the woman returned as their wife, on the whole, the more likely explanation here is that the information given at death registration was in error. Among this group will also be included those instances where the wife had predeceased her husband after census date.

There were other groups where there was some doubt as to the interpretation of one or both of the records.

On the whole, therefore, it appears that there was a possibility of a small amount of over-statement of married people at the census, particularly over the age of 65, and corresponding under-statement at death registration. These possibilities should be borne in mind when assessing the differential mortality of the elderly according to their marital condition.

Duration of marriage

The post-enumeration survey

The questions included in section 5 of Form PES.3 permitted a check to be made on the duration of marriage. From the information returned in this section it was possible to identify the women with uninterrupted first marriage who form the basic group of women in the *Fertility Tables*. The marriage duration of women in this group according to the statements made on the census schedule and on the post-enumeration survey form are cross-classified in Table 27.

Table 28 Comparison of Census with Post-enumeration survey:
Errors in duration - Women with uninterrupted first marriage

England and Wales

Marriage duration in completed years as derived from census	Duration of marriage as derived from census -								Total	
	less than P.E.S. statement by the following number of years				Census and P.E.S. agree	greater than P.E.S. statement by the following number of years				
	4	3	2	1		1	2	3		4
0	-	-	-	2	153					155
1	3	-	-	-	114	1				118
2	2	-	1	5	112	3	-			123
3	1	-	-	1	123	3	-	-		128
4	1	-	-	1	150	3	-	-	-	155
5	1	-	-	2	119	1	-	-	-	123
6	1	-	2	3	132	1	-	-	-	139
7	1	1	1	2	117	1	-	-	-	123
8	1	-	-	2	133	2	-	-	-	138
9	-	-	-	3	127	2	-	-	-	132
10	-	-	-	-	127	-	-	-	1	128
11	-	-	1	-	123	-	-	-	-	124
12	1	-	-	-	134	-	-	-	-	135
13	2	-	-	3	131	-	1	-	-	137
14	-	-	-	2	121	1	-	-	-	124
15	1	-	-	1	141	1	-	1	-	145
16	-	-	-	2	110	-	-	-	-	112
17	-	-	-	2	99	-	-	-	-	101
18	-	-	-	2	122	3	-	-	-	127
19	-	-	-	1	121	2	-	-	1	125
20	2	-	-	2	145	-	-	-	2	151
21	4	1	1	2	172	2	-	-	1	183
22	-	-	1	5	115	-	-	-	-	121
23	1	-	1	1	107	2	-	-	-	112
24	1	-	2	2	124	-	-	-	-	129
25	2	1	1	4	141	1	-	-	1	151
25 or less	25	3	11	50	3,313	29	1	1	6	3,439
26			3		120			3		126
27			2		102			3		107
28			-		103			4		107
29			6		86			3		95
30-34			7		489			8		504
35-39			5		419			6		430
40-44			7		343			3		353
45-49			4		253			2		259
50-54			4		147			-		151
55-59			1		94			-		95
60 or more			-		61			3		64
Total	128				5,530	72				5,730

Table 29 Comparison of Census with Post-enumeration survey:
Marriage duration - Others

England and Wales

Marriage duration in completed years as derived from post-enumeration survey																									
Checked																									
Unchecked																									
Total																									
Unsuccessfully																									
Month and year given																									
Month at beginning of marriage the same																									
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The figures shown in Table 27 indicate generally good agreement between the two statements. Among the 5,730 women in this group for whom the check was successful and who had given a definite date of marriage on the census schedule, 5,530 (96.5 per cent) gave the same answer on the post-enumeration survey. For durations identified the proportion varied between just over 99 per cent to just over 90 per cent. Of the 37 durations identified in Table 27 the proportion of agreement was less than 95 per cent for only five. This high level of agreement was generally to be expected since the information was sought in the same form at the post-enumeration survey as at the census.

Table 28 which is simply a re-arrangement of Table 27 indicates that according to the post-enumeration survey there was a slight tendency to under-state duration of marriage on the census schedule rather than over-state. There were 128 women who under-stated their duration of marriage compared with 72 who over-stated it. For durations up to 25 years where differences of a single year can be identified, 79 out of 126 mis-statements were of this amount.

Tables 29 and 30 are analogous to Tables 27 and 28 but for "other" women, that is, those who were not in the group with uninterrupted first marriage. The numbers here were not large enough to indicate whether the slightly higher proportion agreeing (97.6 per cent) was statistically significant and the numbers in the durations identified are too small to permit any useful analysis.

Table 30 Comparison of Census with Post-enumeration survey:
Errors in duration - Others

England and Wales

Marriage duration in completed years as derived from census	Duration of marriage as derived from census -									Total
	less than P.E.S. statement by the following number of years				Census and P.E.S. agree	greater than P.E.S. statement by the following number of years				
	4	3	2	1		1	2	3	4	
0	1	-	-	-	4	-	-	-	-	5
1	-	-	-	-	1	-	-	-	-	1
2	-	-	-	-	3	-	-	-	-	3
3	-	-	-	-	2	-	-	-	-	2
4	-	-	-	-	1	-	-	-	-	1
5	-	-	-	-	2	1	-	-	-	3
6	1	-	-	-	2	-	-	-	-	3
7	-	-	-	-	2	-	-	-	-	2
8	-	-	-	-	4	-	-	-	-	4
9	-	-	-	-	7	-	-	-	-	7
10-14	-	-	-	-	34	-	-	-	-	34
15-19	1	-	-	-	54	-	-	-	-	55
20-24	-	1	-	-	59	-	-	-	-	60
25-29	1	-	-	-	66	-	-	-	-	67
30-34	-	-	-	-	32	-	-	-	-	32
35-39	-	-	-	-	19	-	-	-	-	19
40-44	2	-	-	-	26	-	-	-	-	28
45-49	-	-	-	-	6	-	-	-	-	6
50 or more	-	-	-	-	3	-	-	-	-	3
Total	6	1	-	-	327	1	-	-	-	335

Comparison with marriage registration records

In the course of the matching work which was carried out basically to check the statements of age at the census and the post-enumeration survey, the opportunity was taken to check the date of marriage for women who were, or had been, married at the time of the census and hence to compare the duration of marriage according to both the census and the post-enumeration survey with that derived from the marriage records. It was possible to assess the accuracy of the original statements only for those women whose marriage could be found in the registration records. It was not possible to check the duration of marriage of women who married outside England and Wales.

The results of the comparison with the marriage records are shown in Tables 31, which compares the marriage duration derived from the census schedule with that derived from the marriage registration records, and 32 which makes a similar comparison with the marriage duration derived from the post-enumeration survey. These two tables are not wholly comparable with Tables 27 and 28 which relate to women with uninterrupted first marriage. The number of women successfully matched was higher - 5,457 compared with 5,320 - on the post-enumeration survey information than on the census schedule information. Otherwise the two tables show similar results. In both tables 89 per cent of the matched marriages gave exact agreement and just under 95 per cent agreed to within a year - which is the finest detail tabulated. Around 2 per cent of the marriage durations derived from census schedule or post-enumeration survey differed from that derived from registration records by a year, the remaining small numbers showing larger discrepancies. There was no significant bias towards under- or over-statement of marriage duration on either census schedule or post-enumeration survey form. The comparison with marriage records, therefore, casts no doubt on the validity of the conclusions drawn from Tables 27 and 28.

Table 31 Comparison of Census with Marriage Registers: Errors in duration

Marriage duration in completed years as derived from census	Duration of marriage as derived from census:-																			Total matched	Date of marriage inadequate at census	Married outside England and Wales	Not stated	Marriage date at census not stated, marriage date stated at P.E.S.	Total			
	less than duration as derived from marriage register by the following number of years										greater than duration as derived from marriage register by the following number of years																	
	10 or more	9	8	7	6	5	4	3	2	1	0	0	1	2	3	4	5	6	7							8	9	10 or more
0	1	-	-	-	-	-	-	-	-	1	1	3	118	3	-	-	-	-	-	-	-	-	124	1	-	-	9	136
1	2	-	-	-	-	-	-	-	1	2	3	98	2	-	-	-	-	-	-	-	-	-	105	-	-	5	1	112
2	-	-	-	-	-	-	-	-	-	5	2	95	103	1	1	-	-	-	-	-	-	-	104	2	-	1	3	108
3	-	-	-	-	-	-	-	-	-	3	2	122	122	4	-	-	-	-	-	-	-	-	110	2	4	4	4	120
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	129	4	-	-	-	4	141
0-4	3	-	-	-	-	-	-	-	1	14	7	536	536	10	1	-	-	-	-	-	-	572	14	7	1	23	1	617
5	-	-	-	-	-	-	-	-	-	2	-	93	93	3	2	-	-	-	-	-	-	100	2	-	2	4	2	108
6	-	-	-	-	-	1	-	-	1	3	-	114	114	3	2	-	-	-	-	-	-	127	4	-	1	5	1	141
7	-	-	-	-	-	-	-	-	-	1	2	101	101	1	3	-	-	-	-	-	-	108	3	1	1	3	1	116
8	-	-	-	-	-	-	-	-	-	2	4	115	115	3	2	-	-	-	-	-	-	126	3	2	4	4	1	135
9	-	-	-	-	-	-	-	-	-	2	3	116	116	2	-	-	-	-	-	-	-	123	4	2	2	4	2	133
5-9	-	-	-	-	1	-	-	-	1	10	12	539	539	12	9	-	-	-	-	-	-	584	16	7	6	20	6	633
10	-	-	-	-	-	-	-	-	-	1	4	109	109	4	2	-	1	-	-	-	-	121	4	1	-	4	-	130
11	-	-	-	-	-	-	-	-	1	1	4	112	112	1	2	-	-	-	-	-	-	121	1	3	-	2	-	127
12	1	-	-	-	-	-	-	-	2	2	-	117	117	1	2	1	-	-	-	-	-	124	4	1	1	4	2	132
13	-	-	-	-	-	-	-	-	1	1	2	125	125	3	-	-	-	-	-	-	-	132	3	2	2	4	4	141
14	-	-	-	-	-	-	-	-	2	2	1	114	114	5	3	-	-	-	-	-	-	123	4	2	1	2	1	132
10-14	1	-	-	-	-	-	-	-	1	7	11	577	577	12	9	1	1	-	-	-	-	621	16	9	2	14	2	662
15	-	-	-	-	-	-	-	-	-	2	5	127	127	1	2	-	-	-	-	-	-	137	3	2	1	4	1	147
16	-	-	-	-	-	-	-	-	1	2	1	96	96	7	2	-	-	-	-	-	-	109	1	3	-	2	-	114
17	-	-	-	-	-	-	-	-	-	2	-	90	90	2	2	-	-	-	-	-	-	96	2	2	-	4	-	104
18	-	-	-	-	-	-	-	-	-	2	1	109	109	2	2	-	-	-	-	-	-	114	3	2	3	3	-	120
19	1	-	-	-	-	-	-	-	-	1	4	119	119	2	2	1	-	-	-	-	-	131	4	2	2	3	-	140
15-19	1	-	-	-	-	-	-	-	1	9	11	541	541	12	10	1	-	-	-	-	-	587	10	12	1	15	1	625
20	1	-	-	-	-	-	-	-	-	-	3	146	146	4	1	1	-	-	-	-	-	156	3	3	-	2	-	164
21	2	-	-	-	-	-	-	-	-	-	5	164	164	8	1	1	-	-	-	-	-	183	7	6	-	4	-	200
22	-	-	-	-	-	-	-	-	1	2	-	105	105	4	1	1	-	-	-	-	-	119	5	3	-	4	-	128
23	-	-	-	-	-	-	-	-	1	2	4	100	100	2	2	1	-	-	-	-	-	113	4	4	-	4	-	123
24	-	-	-	-	-	-	-	-	-	2	2	116	116	1	4	1	-	-	-	-	-	126	2	7	1	6	1	142
20-24	3	-	-	-	-	-	2	1	1	7	18	631	631	19	9	5	-	-	-	-	-	697	14	25	1	20	1	757
25	-	-	-	-	-	-	-	-	2	3	2	124	124	2	3	-	-	-	-	-	-	137	6	7	-	5	-	155
26	-	-	-	-	-	-	-	-	1	3	1	118	118	2	5	-	-	-	-	-	-	130	3	2	-	9	-	144
27	-	-	-	-	-	-	-	-	-	-	2	92	92	4	2	-	-	-	-	-	-	100	1	3	-	10	-	114
28	1	-	-	-	-	-	-	-	-	5	3	100	100	2	3	-	-	-	-	-	-	114	4	4	-	7	-	127
29	-	-	-	-	-	-	-	-	-	4	4	72	72	2	2	-	-	-	-	-	-	84	5	5	1	2	1	95
25-29	1	-	-	-	-	-	-	-	3	15	12	506	506	12	15	-	-	-	-	-	-	565	15	21	1	33	1	635

[illegible]

Table 32 Comparison of Post-enumeration survey with Marriage Registers: Errors in duration

Marriage duration in completed years as derived from P.E.S.	Duration of marriage as derived from post-enumeration survey:-																			Total matched	Date of marriage inadequate at P.E.S.	Married outside England and Wales	Not stated	Marriage date at P.E.S. not stated, marriage date stated at census	Total
	less than duration as derived from marriage register by the following number of years										greater than duration as derived from marriage register by the following number of years														
	10 or more	9	8	7	6	5	4	3	2	1	0	0	1	2	3	4	5	6	7							8	9	10 or more
0	-	-	-	-	-	-	-	-	-	-	2	-	3	1	-	119	1	-	-	-	-	122	1	8	134
1	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	100	1	-	-	-	-	106	-	4	112
2	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	96	-	-	-	-	-	99	-	1	104
3	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	106	-	1	-	-	-	114	-	4	122
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	125	-	-	-	-	-	129	-	4	138
0-4	-	-	-	-	-	-	-	-	-	-	2	8	3	1	-	546	3	1	-	-	-	570	3	21	610
5	-	-	-	-	-	-	-	-	-	-	-	1	1	3	-	100	1	3	-	-	-	106	2	4	112
6	-	-	-	-	-	-	-	-	-	-	1	2	1	1	-	122	2	1	-	-	-	129	4	6	139
7	-	-	-	-	-	-	-	-	-	-	-	3	1	3	-	104	1	3	-	-	-	112	3	3	120
8	-	-	-	-	-	-	-	-	-	-	-	2	2	2	-	116	2	2	-	-	-	123	4	4	131
9	1	-	-	-	-	-	-	-	-	-	-	-	2	1	1	120	2	1	-	1	-	128	4	4	136
5-9	1	-	-	-	-	-	-	-	-	-	1	8	10	1	-	562	8	10	1	-	-	598	2	21	638
10	-	-	-	-	-	-	-	-	-	-	-	1	4	2	-	111	4	2	-	-	-	122	4	4	132
11	-	-	-	-	-	-	-	-	-	-	-	1	1	2	-	119	1	2	-	-	-	126	2	2	130
12	-	-	-	-	-	-	-	-	-	-	-	2	1	3	1	116	2	3	1	-	-	126	4	4	134
13	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	126	2	2	-	-	-	132	3	4	139
14	-	-	-	-	-	-	-	-	-	-	-	-	2	2	-	116	3	2	-	-	-	125	4	4	134
10-14	-	-	-	-	-	-	-	-	-	-	1	6	13	9	1	588	12	9	1	-	-	631	2	18	669
15	-	-	-	-	-	-	-	-	-	-	1	1	5	1	-	131	-	1	-	-	-	141	3	4	148
16	1	-	-	-	-	1	-	-	1	1	-	1	3	2	-	96	7	2	-	-	-	110	1	1	113
17	-	-	-	-	-	-	-	-	-	2	-	2	3	2	-	90	2	2	-	-	-	99	2	5	106
18	-	-	-	-	-	-	-	-	-	3	-	3	2	2	-	108	1	3	3	-	-	117	-	4	123
19	-	-	-	-	-	-	-	-	-	-	-	-	1	1	-	125	1	1	1	-	-	129	4	2	135
15-19	1	-	-	-	-	1	-	-	2	6	-	11	9	1	-	550	11	9	1	-	-	596	2	16	625
20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	145	4	-	1	-	-	153	1	3	162
21	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	164	6	1	1	-	-	177	4	5	193
22	-	-	-	-	-	1	-	-	-	1	-	5	1	1	-	113	5	1	1	-	-	122	1	8	131
23	-	-	-	-	-	-	-	-	-	4	-	5	3	1	-	102	4	3	1	-	-	119	7	7	128
24	-	-	-	-	-	-	-	-	-	2	-	3	2	3	-	115	2	5	1	-	-	128	2	9	146
20-24	-	-	-	-	-	1	-	-	-	7	-	16	10	4	1	639	21	10	4	-	-	699	11	32	760
25	-	-	-	-	-	-	-	-	1	4	-	3	3	-	-	126	4	3	-	-	-	143	6	5	155
26	-	-	-	-	-	-	-	-	1	3	-	3	3	-	-	121	1	6	-	-	-	135	3	9	148
27	1	-	-	-	-	-	-	-	-	4	-	4	4	4	-	94	3	2	-	-	-	107	1	10	119
28	-	-	-	-	-	-	-	-	-	1	4	4	4	4	-	98	2	3	-	-	-	113	2	9	126
29	-	-	-	-	-	-	-	-	-	2	-	2	2	2	-	80	2	-	-	-	-	86	1	4	95
25-29	1	-	-	-	-	-	-	-	1	3	16	16	14	-	1	519	12	14	-	-	-	584	15	37	643

30	127	-	1	112	2	1	12	-	127
31	102	-	1	96	-	1	4	-	102
32	102	-	1	92	-	1	7	-	102
33	100	-	2	88	-	2	7	-	100
34	97	-	1	88	-	1	7	-	97
30-34	528	2	7	476	6	7	37	2	528
35	92	2	2	77	-	2	11	2	92
36	100	-	1	89	-	1	9	-	100
37	98	-	1	88	-	1	9	-	98
38	108	-	1	99	-	1	7	-	108
39	83	1	3	72	-	3	6	1	83
35-39	481	4	6	425	4	6	42	4	481
40	115	3	1	99	3	1	9	3	115
41	114	-	1	95	3	1	15	-	114
42	70	-	-	62	2	-	6	-	70
43	54	-	-	48	1	-	5	-	54
44	70	-	-	60	1	-	8	-	70
40-44	423	3	3	364	10	3	43	3	423
45	84	-	-	78	-	-	6	-	84
46	56	-	-	45	-	-	11	-	56
47	57	-	-	48	2	-	6	-	57
48	51	-	-	43	1	-	7	-	51
49	36	-	-	23	1	-	12	-	36
45-49	284	-	1	237	4	1	42	-	284
50	48	1	-	42	-	-	5	1	48
51	32	-	-	21	-	-	32	-	32
52	29	-	-	24	-	-	5	-	29
53	29	-	-	26	-	-	2	-	29
54	33	-	-	25	1	-	6	-	33
50-54	171	1	2	138	3	2	27	1	171
55	25	-	-	17	1	-	7	-	25
56	21	-	-	16	1	-	4	-	21
57	24	-	-	20	1	-	3	-	24
58	21	-	-	17	1	-	3	-	21
59	17	1	-	11	1	-	4	1	17
55-59	108	1	-	81	5	-	21	1	108
60	14	-	-	10	-	-	4	-	14
61	18	-	-	13	-	-	4	-	18
62	6	-	-	6	-	-	-	-	6
63	8	-	-	7	-	-	1	-	8
64	8	-	-	7	-	-	-	-	8
60-64	54	-	-	43	2	-	9	-	54
65	6	-	-	2	2	-	2	-	6
66	3	-	-	3	-	-	3	-	3
67	5	-	-	4	-	-	1	-	5
68	1	-	-	-	-	-	-	-	1
69	1	-	-	1	-	-	-	-	1
65-69	16	-	-	10	3	-	3	-	16
70 or more	7	-	-	5	1	-	1	-	7
Not stated	18	2	-	-	-	-	14	2	18
Total	6,035	25	107	5,457	62	107	384	25	6,035

Number of children

Another part of section 5 of the post-enumeration survey form PES.3 asked for the number of live-born children born to a mother of her present marriage and a separate question asked for the number of children of any previous marriage. The number of children born of the current and any previous marriage should have equalled the number of children returned in answer to question F(i) on the census schedule. In addition, a question asked for the names of any children under 2 years of age who were not enumerated with the mother; this was to provide an opportunity to reconcile the number of children under 2 with the number actually enumerated: such a reconciliation was not in fact carried out.

The results of the check on the number of live-born children are shown in Table 33. This table relates to women with uninterrupted first marriage and to all other ever-married women. Part (A) of Table 33 shows that the proportion of agreement on the number of live-born children was 96 per cent. There was some indication that the proportion of agreement was lower for families of 6 or more children but the numbers involved were not large enough to show whether the apparent difference was statistically significant. The main feature shown was that the majority of instances where a dash was inserted in the answer space on the schedule, or where that space was simply left blank, represented women with no children. Out of a total of 396 such women included in the sample and successfully checked, 81 per cent were childless. In the course of the main processing, an advance provisional version of Part (A) of Table 33 was produced and was the basis of the decision to treat such women as childless in the main census processing operation. The fact that there were so many women who failed to answer this question is probably a reflection on the wording of the census question which failed to give a specific instruction to childless women on the completing of this question. The corresponding question in the 1951 Census included an instruction that childless women should answer "None" to this question.

Since all the women for whom this question was not answered specifically were treated as childless in the main processing, whereas Part (A) indicates that only

Table 33 Comparison of Census with Post-enumeration survey: England and Wales
Number of live-born children -
Women with uninterrupted first marriage and other ever-married women

Number of children as stated at census	Number of children as stated at post-enumeration survey																
	Checked													Unchecked		Total	
	Successfully												Unsuccess-fully	Total	No contact		Refusal
	0	1	2	3	4	5	6	7	8	9	10 or more	Total					
Part (A) Women with uninterrupted first marriage																	
0	758	21	7	2	3	1	1	2	1	-	-	796	19	815	24	34	873
1	25	1,361	34	10	1	2	-	-	-	-	-	1,433	34	1,467	41	46	1,554
2	6	11	1,419	17	3	4	2	-	-	-	1	1,463	47	1,510	30	40	1,580
3	5	1	6	739	13	-	1	1	-	-	-	766	20	786	15	24	825
4	1	2	3	4	352	4	-	1	-	-	-	367	19	386	17	12	415
5	-	1	-	1	173	2	-	2	-	-	-	180	11	191	4	4	199
6	-	-	-	-	1	2	104	4	1	-	1	113	3	116	1	2	119
7	-	-	-	-	-	1	1	52	1	-	-	55	7	62	-	3	65
8	-	-	-	-	-	-	-	-	31	2	1	34	1	35	-	1	36
9	-	-	-	-	-	-	-	1	1	21	-	23	3	26	2	-	28
10 or more	-	-	-	-	-	-	-	1	-	-	36	37	2	39	-	3	42
Blank	66	12	16	7	2	4	4	2	-	-	-	113	11	124	5	6	135
Dash	253	7	11	3	5	1	1	2	-	-	-	283	18	301	7	10	318
Total	1,114	1,416	1,496	783	381	192	116	66	37	23	39	5,663	195	5,858	146	185	6,189
Part (B) Other ever married women																	
0	93	5	2	-	1	-	-	-	-	-	-	101	5	106	3	6	115
1	6	131	4	2	-	-	-	-	-	-	-	143	12	155	6	6	167
2	3	5	138	3	3	-	1	-	1	-	-	154	16	170	5	3	178
3	-	1	-	69	1	2	1	-	-	-	-	74	5	79	4	3	86
4	-	-	-	1	42	1	-	-	-	-	-	44	1	45	-	1	46
5	-	-	-	-	-	25	-	-	-	-	-	25	2	27	-	2	29
6	-	1	1	-	-	-	12	-	-	-	1	15	-	15	-	2	17
7	-	-	-	-	-	-	-	5	1	-	-	6	-	6	-	1	7
8	-	-	1	-	-	-	-	-	6	-	-	7	-	7	-	-	7
9	-	-	-	-	-	-	-	-	-	1	-	1	-	1	-	-	1
10 or more	-	-	-	-	-	-	-	-	-	1	1	2	-	2	-	1	3
Blank	13	1	1	-	-	1	-	-	-	-	-	16	-	16	1	-	17
Dash	18	1	-	-	1	-	-	-	-	-	-	20	4	24	1	1	26
Total	133	145	147	75	48	29	14	5	8	2	2	608	45	653	20	26	699

four in five should have been treated in this way, it follows that the number of childless women has been slightly over-stated in the census figures. For women with uninterrupted first marriage the amount of over-statement of childlessness can be estimated at about 6.5 per cent. Such over-statement, though not large, is certainly not negligible. Apart from this trouble with the number of childless women, there is no evidence from the table of significant errors in the number of live-born children.

Part (B) of Table 33 which related to those ever-married women who were not included among the women with uninterrupted first marriage, is based on much smaller numbers. There are no significant differences between the situations as shown by the two sections of this table.

Birthplace

The check on birthplace formed section 6 of Form PES.3. This simply asked where the person was born but indicated that the town, village or province were to be stated. In this respect it differed from the question on the census schedule which asked only for country of birth without any further geographical specification.

The results of the check on birthplace are shown in Table 34. This table combines the results for men and women and also merges the results for those originally enumerated on ten per cent and ninety per cent schedules. No significant differences were found between these groups. Table 34 indicates very close agreement between the two sets of results. The main point revealed by this table is that the great majority of people who were originally enumerated as being born in "Ireland" or "Eire", with no further information given which would enable them to be allocated to Northern Ireland or the Irish Republic, were shown by the post-enumeration survey to have been born in the Irish Republic. Subject to this qualification, the percentage of agreement between the schedule and the post-enumeration survey was very high. This indicates that little was gained from asking for the further detail in the check question. The number in the sample who failed to reply to the birthplace question were too few to confirm the impression given by Table 34 that relatively more of them were born outside the British Isles than among the general population. For nearly one in five of the 712 people where the check was not successful the question had been misinterpreted and the answer given as "town" or "village". The remainder were mainly people for whom no reply was obtained to this question on the post-enumeration survey, and for half of these, the majority of whom were children, the previous question about marital condition and fertility had not been completed and the birthplace question appears to have been overlooked because of its position on the questionnaire. There is no apparent reason why the question was ignored for the remainder. The distribution of this group according to their birthplace on the census schedule does not suggest that they were otherwise untypical of the general population.

Table 34 Comparison of Census with Post-enumeration survey: England and Wales
Country of Birth

Birthplace as stated at census	Birthplace as stated at post-enumeration survey												
	Checked								Unchecked		Total		
	Successfully							Unsuccess- fully	Total	No contact		Refusal	
	British Isles excluding Ireland	Northern Ireland	Irish Republic	Ireland (p.n.s.) including Eire (p.n.s.)	Colonies and Protectorates	Commonwealth countries	Foreign countries and at Sea						Total
British Isles, excluding Ireland	18,720	-	3	-	-	1	-	18,724	677	19,401	431	622	20,454
Northern Ireland	-	99	2	-	-	-	-	101	2	103	1	4	108
Irish Republic	-	-	224	6	-	-	-	230	9	239	10	7	256
Ireland (part not stated) including Eire (part not stated)	-	1	26	1	-	-	1	29	2	31	2	2	35
Colonies and Protectorates	-	-	-	-	70	-	-	70	5	75	12	1	88
Commonwealth countries	-	-	-	-	-	158	-	158	7	165	11	1	177
Foreign countries and at Sea	2	-	-	-	-	-	263	265	9	274	15	15	304
Not stated	13	-	-	-	1	1	4	19	1	20	2	2	24
Total	18,735	100	255	7	71	160	268	19,596	712	20,308	484	654	21,446

Nationality

The questions on nationality which were put in the post-enumeration survey appear in section 7 of the Form PES.3. The substance of the questions did not differ from those included in the original census schedule.

The results of the comparison appear in Table 35. This table refers to males and females separately and separate figures are also given for those originally enumerated on ten per cent and ninety per cent schedules. These latter two groups have been kept separate because the distributions of the two groups differ. Some of this difference can be accounted for by the bias in the ten per cent sample which appears to have affected the distribution by nationality to a greater degree than that by birthplace. The ten per cent figures contained a clearly smaller proportion of males shown in the post-enumeration survey as being citizens of the United Kingdom and Colonies by birth or descent, than the one hundred per cent enumeration.

On the whole, the agreement between the census and the post-enumeration survey was good. The main change was due to the reduction of the relatively large group who failed to state their nationality; a group which again was clearly larger among those enumerated on the ten per cent schedules. The tables do not suggest that this not stated group were distributed in a way which was significantly different from those who stated their nationality. The relatively small numbers appearing in the groups where there was disagreement do not fall into any clear pattern. About 11 per cent of those described in the tables as citizens of the United Kingdom and Colonies on the post-enumeration survey in fact stated they were "British" and the same proportion held for the original census answer. This group did not appear to differ from those stating United Kingdom and Colonies and they have therefore been combined with them.

Migration

The migration questions in the 1961 Census were checked by section 3 of the post-enumeration survey Form PES.3. The information sought was the same as on the schedule but the approach was slightly different. On the Form PES.3 the first question was whether the person had lived at their present usual residence since birth; if the person had not lived there since their birth they were asked for the duration of residence and if that was within a year of census date, they were asked for the address of their previous usual residence. On the census schedule the first question was whether the address a year ago was the same as at census date; if it was, the duration of residence was then asked. If not, the address of the usual residence a year before census was required. The different order in which the different groups were approached in the two sets of questions could have led to marginal differences in response; there is no evidence available to support or reject such a hypothesis.

The results of the post-enumeration survey with respect to migration are shown in Table 36. About 1 per cent failed to answer the question on migration on the census schedule. The post-enumeration survey suggests that this group contained the same proportion of migrants as the general population and that the only noticeable difference as regards duration of residence was the over-representation of people who had lived in the same place all their life. A number of people gave inconsistent answers to the migration question. Thus a small number of people stated they were migrants but failed to give a previous address. The post-enumeration survey indicates that only about three in five of these people were migrants. There was a much larger group who stated that they were not migrants but failed to give a duration of residence. This group, which amounted to about 4 per cent of the population, were practically all non-migrants. Both these groups of people, as well as those failing to answer the migration questions at all, were excluded from the *Migration Tables*; their exclusion does not appear to have introduced any appreciable bias into the figures.

The number of migrants according to the census schedule was confirmed by the post-enumeration survey. For 95 per cent of males and 96 per cent of females the schedule and post-enumeration survey agreed in their allocation and the differences tended to cancel each other out. The previous addresses stated for migrants agreed for 97 per cent of males and 99 per cent of females.

There is no evidence from the post-enumeration survey that the number of non-migrants was seriously in error but the distribution by duration of residence is slightly suspect. The proportion of agreement between duration as stated on the schedule and on the post-enumeration survey was a little under 90 per cent for durations under 5 years and improved a little for the longer durations being 94 or 95 per cent for 15 or more years. The proportion agreeing was 94 per cent for the "since birth" group. There appears to have been some tendency to round up the number of years of duration of residence instead of giving the number of completed years as instructed. Thus, for those living at their present residence for less than 15 years, about one in five stated a duration one year longer than they should. Since the durations are grouped in the published tables after one year the effect of this is lessened but the number with duration of residence of 1 year was under-stated by about a seventh.

Table 35 Comparison of Census with Post-enumeration survey:
Nationality

England and Wales

Nationality as stated at census	Nationality as stated at post-enumeration survey														
	Checked										Unchecked		Total		
	Successfully						Unsuccessfully				Total	No contact		Refusal	
	U.K. and Colonies				Irish Republic	Citizens of other Commonwealth countries	Aliens (including stateless)	Total	Eire	Ireland					Others
	by Birth or descent	by Registration or marriage	by Naturalisation	Mode not stated											
U.K. and Colonies	43	-	-	-	-	1	-	44	-	-	2	46	4	-	50
by Birth or descent	1	-	1	-	-	-	-	2	-	-	-	2	-	-	2
by Registration or marriage	-	-	14	-	-	-	-	14	-	-	2	16	-	1	17
by Naturalisation	3	-	-	1	-	1	-	5	-	-	-	5	2	2	9
Mode not stated	-	-	-	-	-	-	-	-	-	1	-	1	-	-	1
Eire	5	-	1	-	37	-	-	43	9	6	5	63	4	2	69
Irish Republic	2	-	-	-	-	25	-	27	-	-	-	27	4	1	32
Citizens of other Commonwealth countries	3	-	-	1	-	-	52	56	-	-	2	58	3	3	64
Aliens (including stateless)	17	-	3	-	5	2	3	30	3	1	13	47	1	-	48
Not stated															
Total	74		19	2	42	29	55	221	12	8	24	265	18	9	292
Males 90 per cent															
U.K. and Colonies	29	-	-	-	-	1	-	30	-	-	2	32	2	-	34
by Birth or descent	-	-	1	-	-	-	-	1	-	-	-	1	1	1	3
by Registration or marriage	-	-	9	-	-	-	1	10	-	-	-	10	-	-	10
by Naturalisation	-	-	1	-	-	-	-	1	-	-	-	1	-	-	1
Mode not stated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eire	1	-	1	-	14	-	-	16	6	6	6	34	1	-	35
Irish Republic	-	-	-	-	-	8	-	8	-	-	-	8	1	-	9
Citizens of other Commonwealth countries	-	-	2	-	-	-	16	18	-	-	-	18	2	3	23
Aliens (including stateless)	1	1	1	-	1	1	1	6	2	1	4	13	2	2	17
Not stated															
Total	31	1	15		15	10	18	90	8	7	12	117	9	6	132
Females 10 per cent															
U.K. and Colonies	52	1	-	-	-	5	-	58	-	-	6	64	6	-	70
by Birth or descent	1	17	1	-	-	2	2	23	-	-	1	24	1	1	26
by Registration or marriage	-	-	11	-	-	-	-	11	-	-	1	12	-	-	12
by Naturalisation	4	-	1	1	-	1	-	7	-	-	1	8	3	-	11
Mode not stated	-	-	-	-	-	-	-	-	2	-	-	2	-	-	2
Eire	4	4	-	-	28	-	-	36	10	5	12	63	4	4	71
Irish Republic	2	5	-	-	-	21	-	28	-	-	-	28	-	-	28
Citizens of other Commonwealth countries	3	4	-	2	-	-	34	43	-	-	1	44	4	2	50
Aliens (including stateless)	16	9	2	-	6	4	4	41	6	1	8	56	3	2	61
Not stated															
Total	82	40	15	3	34	33	40	247	18	6	30	301	21	9	331
Females 90 per cent															
U.K. and Colonies	26	1	-	-	-	1	-	28	-	-	1	29	-	1	30
by Birth or descent	-	12	1	1	-	1	-	15	-	-	-	15	-	-	15
by Registration or marriage	-	2	2	1	-	-	1	6	-	-	1	7	-	-	7
by Naturalisation	-	1	-	-	-	-	-	1	-	-	-	1	-	-	1
Mode not stated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eire	-	1	1	-	20	-	-	22	1	2	5	30	-	-	30
Irish Republic	1	-	-	-	-	5	-	6	-	-	-	6	-	-	6
Citizens of other Commonwealth countries	-	1	1	-	-	-	16	18	-	-	1	19	3	1	23
Aliens (including stateless)	2	3	-	-	1	-	2	8	-	-	7	15	1	1	17
Not stated															
Total	29	21	5	2	21	7	19	104	1	2	15	122	4	3	129

Table 36 Comparison of Census with Post-enumeration survey:
Migration

England and Wales

Length of stay as derived from census	Length of stay as derived from post-enumeration survey													
	Checked										Unchecked		Total	
	Successfully						Unsuccessfully				No Contact	Refusal		
	Under 1 year	1 year	2-4 years	5-14 years	15 years or more	Since birth	Total	Incom- plete, not since birth	Incomplete date of move	No reply				
Males														
Under 1 year	694	19	3	6	3	5	730	11	21	4	766	27	16	809
1 year	13	318	12	2	-	6	351	3	46	-	400	9	13	422
2-4 years	8	73	833	28	1	22	965	9	137	8	1,119	38	21	1,178
5-14 years	1	5	48	1,528	10	43	1,635	19	161	8	1,823	25	61	1,909
15 years or more	4	3	6	40	1,183	24	1,260	11	51	2	1,324	23	46	1,393
Since birth	4	2	8	22	12	793	841	5	6	4	856	11	18	885
Migrant, no address	9	1	-	2	-	3	15	-	1	-	16	3	-	19
Not migrant, no duration	4	13	38	72	49	42	218	4	14	1	237	11	14	262
Not migrant, address given	1	-	2	-	2	-	5	1	-	-	6	-	-	6
No reply at all	7	3	6	16	8	26	66	3	5	1	75	5	2	82
Total	745	437	956	1,716	1,268	964	6,086	66	442	28	6,622	152	191	6,965
Females														
Under 1 year	721	10	5	6	3	3	748	16	14	2	780	26	24	830
1 year	19	343	14	4	1	3	384	4	45	-	433	14	12	459
2-4 years	5	70	886	27	3	16	1,007	20	136	7	1,170	33	24	1,227
5-14 years	2	5	58	1,639	26	31	1,761	26	173	6	1,966	44	74	2,084
15 years or more	-	3	5	37	1,429	36	1,510	14	61	8	1,593	33	51	1,677
Since birth	3	2	4	17	17	716	759	4	1	6	770	12	19	801
Migrant, no address	17	-	2	3	1	5	28	1	-	-	29	5	1	35
Not migrant, no duration	3	10	35	79	76	39	242	2	22	-	266	13	11	290
Not migrant, address given	1	-	-	-	1	-	2	-	-	-	2	1	-	3
No reply at all	13	4	17	16	15	28	93	3	8	1	105	5	6	116
Total	784	447	1,026	1,828	1,572	877	6,534	90	460	30	7,114	186	222	7,522

Supplementary Analysis
Migration coding - under 1 year
Comparison of address recorded at Census and as stated at P.E.S.

Males				Females			
No address on P.E.S.	Agree	Disagree	Total	No address on P.E.S.	Agree	Disagree	Total
54	620	20	694	49	662	10	721

Terminal education age

Question 8 on the Form PES.3 first asked people over the age of 15 whether they were currently receiving full-time education and went on to ask those who replied "No" when they finished their full-time education.

This second question was not answered in a satisfactory way. Out of a total of 9,509 people who gave a definite answer to the question, 54 per cent gave the age at which they completed their full-time education whereas the question was framed with the intention of obtaining the date when their full-time education ceased. As it was not possible to pilot the questionnaire to be used, the ambiguity of this question was not revealed until it was too late.

Some provisional conclusions were drawn from those people who answered the question in the way intended and these conclusions formed the basis of the following statement in the General Explanatory Notes of the *Education Tables*:

"The results (of the post-enumeration survey) indicated that there was over-statement of the numbers returned with terminal education age 14 (of between 2 and 4 per cent) and slight under-statement of the numbers with a terminal education age of 17-19 (of less than 2 per cent). Information is not available as to whether there was any significant variation by area, age at census, socio-economic group or occupation."

However, further analysis suggests that there is some doubt of the reliability of conclusions drawn from those people who answered the question in this way. The stated terminal education ages of people who in reply to the post-enumeration survey questionnaire gave the date when their education ended and those who gave the age when their education ended is as follows:-

Terminal education age as stated on census schedule	Proportional distribution per 10,000 of people who at P.E.S. -	
	gave date when education ended	gave age at which education ended
Under 13	243	325
13	678	740
14	4,927	5,275
15	2,029	1,914
16	1,014	926
17-19	712	577
20 or over	397	243
All stated	10,000	10,000

Inspection of these distributions shows at once that those giving the date when education ended have an older terminal education age distribution than the people who gave the age at which education ended. This means that it is not safe to draw conclusions for the whole population from the people who stated the date when their education ended. In fact, for the people who gave the age at which education ended, there was little disagreement between the age stated on the census schedule and that given on the post-enumeration survey form. Whether the correspondence was truly so close or whether the same faulty information was given on both occasions remains a question which cannot be answered.

Economic position and employment status

The questions in sections 10 and 11 of the Form PES.3 permit comparisons to be made between the main census and the post-enumeration survey of a person's economic position and employment status. Such a comparison is made in Tables 37 to 39 of which Table 37 relates to men, Table 38 to married women and Table 39 to single, widowed or divorced women.

Table 37 shows that the correspondence between the information given on the census schedule and that given on Form PES.3 was generally good being just over 97 per cent for all men checked successfully. For most of the groups identified the proportion of agreement was 96 per cent or higher. In particular there was 99.5 per cent agreement for the economically inactive group taken as a single group and 97.5 per cent agreement for the economically active who were in employment again taken as a single group. For those out of employment the proportion of agreement was just under 93 per cent, the main disagreement arising from some confusion between those out of employment because they were sick and those out of employment for other reasons.

The group of "other persons economically inactive", which included only a small number of men, appears to have been considerably over-estimated on the information given on the census schedule; a number who should have been returned as retired, or as employees, were included in this group. The other main discrepancy was in the number of apprentices returned on the census schedule; this was incorrectly inflated by some men who should have been included in the "other employee" group; there was some error in the opposite direction so that the net excess of apprentices in the original enumeration was less than would be implied by the relatively lower proportion for which the census and post-enumeration survey statements were the same.

The panel relating to part-time workers indicates that the number of men returned as part-time workers was about correct but that this was slightly fortuitous because, as far as can be judged from this sample, the number of men returned as part-time workers who were actually working full time was balanced by the number returned as retired who should have been returned as part-time workers.

The value of the figures shown in Table 38 for married women is partly restricted by the size of the sample. This meant that the numbers falling into most of the smaller groups were too small to produce useful results. On the whole the level of agreement was again high (just under 97 per cent) for all groups combined for whom the check was successfully made. Probably the most significant item in the main section of this table was the number of women returned among the other inactive group on the schedule (usually as housewives)

Table 37 Comparison of Census with Post-enumeration survey:
Economic activity - Males

Economic activity as stated at post-enumeration survey																								
Checked																								
Unchecked																								
Unsuccessfully																								
Total																								
Refusal																								
Total																								
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Assignment of part-time workers

	Part-time	Full-time	Out of employment	Institution inmates	Retired	Students	Others inactive	Total	Not Stated	No contact	Refusal	Total
Part-time at census tabulated as coded at P.E.S.	38	5	-	-	1	-	-	44	1	1	4	50
Part-time at P.E.S. tabulated as coded at census	38	-	-	-	5	-	-	43	-	-	-	43

**Table 3E Comparison of Census with Post-enumeration survey:
Economic activity - Married females**

[illegible]

Assignment of part-time workers

	Part-time	Full-time	Out of employment	Institution inmates	Retired	Students	Others inactive	Total	Not started	No contact	Refusal	Total
Part-time at census tabulated as coded at P.E.S.	430	9	1	-	-	-	5	445	7	8	15	475
Part-time at P.E.S. tabulated as coded at census	430	9	-	-	-	-	47	486	-	-	-	486

who were shown by the post-enumeration survey to be economically active. These women amounted to 3 per cent of the other inactive (so returned) but represented about 6 per cent of the true economically active. Since there was a smaller shift in the opposite direction the economically active, according to the post-enumeration survey, exceeded the number according to the census schedule by just under 5 per cent.

The panel dealing with part-time workers among the married women indicates that some caution should be exercised with these figures. The post-enumeration survey indicated a net under-statement of married part-time women workers of 9 per cent. The main discrepancy arises from women actually working part-time having been returned as economically inactive; that is to say that the general error noted in the last paragraph had a particular impact upon part-time workers.

Table 39 relates to single, widowed or divorced women. As with the married women, the number in the sample was too small for a satisfactory comparison to emerge for several of the smaller groups identified. The overall level of agreement between schedule statement and post-enumeration survey statement at 97 per cent was still high.

For non-married women there was a tendency for some women who should have returned themselves as in the "other inactive" group (i.e. housewives) to state that they were retired. Among this group of women the number retired, according to the statement on the census schedule, was nearly a third higher than suggested by the post-enumeration survey. This feature was proportionally more marked for non-married women than for married women. Another error, which affected the women originally returned as economically inactive, was the feature already noted for married women that some women, originally stated to be in the "other inactive" group, should have been enumerated as economically active, mainly in the "other employee" group. As for married women the proportion for whom this error was made amounted to about 3 per cent of the other inactive group but the effect on the other employee group was proportionately less for non-married women than for married women.

For the other groups identified, the reliability of the census statement was generally good and differed little from the level maintained for men and for married women. As for married women a similar distortion was found in the numbers of part-time workers and this arose from the same cause, the error in the "other inactive" group already referred to.

For details of the comparison made, at Great Britain level, between the economically active population according to the census and the estimates of the working population made by the Ministry of Labour reference should be made to Appendix A of the General Explanatory Notes of the *Occupation Tables* or either Part of the *Industry Tables*.

Occupation

The post-enumeration survey

The questions on the post-enumeration survey on occupation appeared in Section 14 of the Form PES.3. The approach in these questions was different from that used on the census schedule. The question on the census schedule asked for the precise occupation with the further instruction that, where appropriate, the material worked or dealt in should be shown; coal miners were told to indicate whether they worked above or below ground. The explanatory notes expanded the question a little by giving a list of terms which were too vague or too general. Foremen and managers were asked to state the department in which they worked, civil servants were asked to give their rank and the department or branch in which they worked and people were encouraged to use terms which were used in the industry or trade for describing the job which they did.

The census question, therefore, was essentially one which asked for a single term by which a person's job could be described. The post-enumeration survey questions began by asking for such a single term and then asked for a verbal description of the work done. This was supplemented by a series of check lists for different types of worker, the check lists giving broad groups into which such workers could be classified. For example, the interviewer had to obtain enough information to decide whether a non-manual worker was professional, technical, managerial, clerical or something else. The final two questions in the occupation section of the post-enumeration survey tried to relate the person concerned with the group with whom he worked. He was asked for the title of his immediate supervisor and those who were foremen, managers or supervisors were asked to state the type of work that they supervised.

It is clear that the questions put at the post-enumeration survey differed from those asked at the census. The post-enumeration survey questions were more detailed with the intention of obtaining enough information to permit a true occupation coding to be made. By this means it was hoped to derive a measure of the degree of accuracy possible from a question of the "single term" type used at the census. It was true that a wholly precise measure could not be obtained

Table 39 Comparison of Census with Post-enumeration survey:
Economic activity - Other females

Economic activity as stated at post-enumeration survey																																																	
Checked															Unchecked																																		
Successfully															Unsuccessfully																																		
Economically inactive										Economically active																																							
Retired					Students					Others inactive					Total					Out of employment					Total																								
Institution inmates					Self-employed without employees					Self-employed with employees - large establishments					Self-employed with employees - small establishments					Managers - large establishments					Managers - small establishments					Foremen					Apprentices					Other employees					Total				
(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)	(u)	(v)	(w)	(x)	(y)																										
Economically Inactive																																																	
66	129	642	837	2	-	-	-	-	-	-	-	2	15	19	-	-	-	19	856	77	51	26	1,010																										
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-																										
59	-	28	87	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	87	44	10	4	145																										
7	128	-	128	-	-	-	-	-	-	-	-	-	1	1	-	-	-	1	129	4	5	4	142																										
-	-	614	622	2	-	-	-	-	-	-	-	2	14	18	-	-	-	18	640	29	36	18	723																										
Economically Active																																																	
-	-	9	9	23	-	8	13	15	20	27	839	945	13	13	26	971	980	28	31	46	1,085																												
-	-	5	5	23	-	8	13	15	20	27	839	945	3	1	4	949	954	23	28	40	1,045																												
-	-	-	-	22	-	2	-	-	-	-	-	-	24	-	-	-	24	24	-	-	2	26																											
-	-	-	-	1	-	5	-	-	-	-	-	-	6	-	-	-	6	-	-	-	-	6																											
-	-	-	-	-	-	-	11	-	-	-	-	-	11	-	-	-	11	11	1	-	-	12																											
-	-	-	-	-	-	-	-	15	-	-	-	-	15	-	-	-	15	15	-	-	-	15																											
-	-	-	-	-	-	-	-	-	18	-	-	-	1	19	-	-	19	19	-	-	2	21																											
-	-	-	5	5	-	-	-	-	22	-	2	5	2	24	-	-	24	24	24	1	4	29																											
-	-	-	-	-	-	1	2	-	2	-	2	5	836	846	3	1	4	850	855	22	25	34	936																										
Out of Employment																																																	
-	-	4	4	-	-	-	-	-	-	-	-	-	-	-	10	12	22	22	26	5	3	6	40																										
-	-	2	2	-	-	-	-	-	-	-	-	-	-	-	8	-	8	8	10	2	1	3	16																										
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	12	14	14	16	3	2	3	24																										
Total																																																	
66	129	651	846	25	8	13	15	20	29	854	964	13	13	26	990	1,836	105	82	72	2,095																													

	Part-time	Full-time	Out of employment	Institution inmates	Retired	Students	Others inactive	Total	Not stated	No contact	Refusal	Total
Part-time at census tabulated as coded at P.E.S.	89	4	-	-	-	-	2	95	2	7	1	105
Part-time at P.E.S. tabulated as coded at census	89	-	-	-	1	-	9	99	-	-	-	99

Table 40 Comparison of Census with Post-enumeration survey:
Occupation - Economically active and retired - Males

England and Wales

Occupation	Checked										Unchecked		Total	
	Successfully													
	As stated at census					As stated at post-enumeration survey					Unsuccess- fully	No contact		Refusal
	Total	P.E.S. showing			Census and P.E.S. agree	Census showing			Total					
		Different order	Same order but different unit	Other inactive		Different order	Same order but different unit	Other inactive						
All Occupations	4,733	249	(135)	-	4,484	249	(135)	10	4,743	172	113	160	5,178	
I. Farmers, foresters, fishermen	265*	2	(7)	-	262	6	(7)	-	269*	6	7	6	284	
000 Fishermen	8	1	-	-	7	-	-	-	7	-	-	-	8	
001 Farmers, farm managers, market gardeners	94	-	3*	-	91	3	1	-	95	2	4	1	101	
002 Agricultural workers n.e.c.	111	1	3	-	107	1	3*	-	111	2	3	-	116	
003 Agricultural machinery drivers	17	-	-	-	17	-	2	-	19	-	-	2	19	
004 Gardeners and groundsmen	26	-	1	-	25	2	1	-	28	1	-	3	30	
005 Foresters and woodmen	9	-	-	-	9	-	-	-	9	1	-	-	10	
II. Miners and quarrymen	145	10	(27)	-	135	5	(27)	-	140	3	-	-	148	
010 Coal mine - face workers	54	3	1	-	50	-	15	-	65	1	-	-	55	
011 Coal mine - other underground workers	44	4	5	-	35	2	8	-	45	1	-	-	45	
012 Coal mine - workers above ground	17	1	1	-	15	2	1	-	18	1	-	-	18	
013 Coal miners (so described)	22	2	20	-	-	-	3	-	3	-	-	-	22	
014 Workers below ground n.e.c.	2	-	-	-	2	-	-	-	2	-	-	-	2	
015 Surface workers n.e.c. - mines and quarries	6	-	-	-	6	1	-	-	7	-	-	-	6	
III. Gas, coke and chemicals makers	43	5	-	-	38	4	-	-	42	2	-	-	45	
020 Furnacemen, coal gas and coke ovens	4	2	-	-	2	1	-	-	3	-	-	-	4	
021 Chemical production process workers n.e.c.	39	3	-	-	36	3	-	-	39	2	-	-	41	
IV. Glass and ceramics makers	17	1	-	-	16	1	-	-	17	-	-	-	17	
030 Ceramic formers	5	-	-	-	5	-	-	-	5	-	-	-	5	
031 Glass formers, finishers and decorators	5	-	-	-	5	1	-	-	6	-	-	-	5	
032 Furnacemen, kilnmen, glass and ceramic	1	-	-	-	1	-	-	-	1	-	-	-	1	
033 Ceramics' decorators and finishers	3	-	-	-	3	-	-	-	3	-	-	-	3	
034 Glass and ceramics production process workers n.e.c.	3	1	-	-	2	-	-	-	2	-	-	-	3	
V. Furnace, forge, foundry, rolling mill workers	65	3	(3)	-	62	3	(3)	-	65	-	-	-	65	
040 Furnacemen - metal	8	-	-	-	8	-	-	-	8	-	-	-	8	
041 Rolling, tube mill operators, metal drawers	11	2	2	-	7	-	1	-	9	-	-	-	11	
042 Moulders and coremakers (foundry)	13	-	-	-	13	1	-	-	14	-	-	-	13	
043 Smiths, forgemen	16	1	-	-	15	1	1	-	17	-	-	-	16	
044 Metal making and treating workers n.e.c.	3	-	-	-	3	1	-	-	4	-	-	-	3	
045 Fettlers, metal dressers	14	-	1	-	13	-	-	-	13	-	-	-	14	

VI. Electrical and electronic workers										157	5	(5)	-	152	11	(5)	-	163	4	-	165
050 Radio and radar mechanics										8	-	-	-	8	-	-	-	8	-	-	8
051 Installers and repairmen, telephone										31	-	-	-	31	2	-	-	33	0	-	33
052 Linemen, cable joiners										11	-	-	-	11	1	-	-	13	1	-	12
053 Electricians										85	-	-	-	85	4	3	-	92	3	-	90
054 Electrical and electronic fitters										10	1	1	-	8	4	1	-	13	-	-	10
055 Assemblers (electrical and electronic)										6	1	1	-	4	-	-	-	4	-	-	6
056 Electrical engineers (so described)										6	3	3	-	-	-	-	-	-	-	-	6
VII. Engineering and allied trades workers n.e.c.										709	24	(43)	-	685	30	(43)	1	716	21	14	762
060 Sheet metal workers										26	1	-	-	25	-	3	-	28	1	-	28
061 Constructional engineers; riggers										8	1	1	-	6	-	-	-	6	-	1	11
062 Metal plate workers; riveters										23	1	1	-	21	1	2	-	24	1	-	24
063 Gas, electric welders, cutters; braziers										28	-	-	-	27	2	3	-	32	2	2	31
064 Machine tool setters, setter-operators										69	-	2	-	67	1	1	-	69	3	1	76
065 Machine tool operators										40	3	1	-	36	1	2	-	39	1	-	41
066 Tool makers, tool room fitters										30	2	-	-	28	-	-	-	30	2	1	34
067 Fitters, machine erectors, etc.										208	5	4	-	199	6	12	1	218	6	3	221
068 Engineers (so described)										58	9	25	-	24	-	-	-	24	-	-	58
069 Electro-platers, dip platers and related workers										8	-	-	-	8	-	-	-	8	-	-	8
070 Plumbers, lead burners, pipe fitters										49	-	1	-	48	1	-	-	49	-	1	53
071 Press workers and stampers										10	-	1	-	9	2	3	-	14	-	-	10
072 Metal workers n.e.c.										24	-	-	-	24	4	5	-	33	1	-	27
073 Watch and chronometer makers and repairers										5	-	-	-	5	-	-	-	5	-	-	5
074 Precision instrument makers and repairers										15	-	2	-	13	-	1	-	14	1	-	16
075 Goldsmiths, silversmiths, jewellery makers										3	-	1	-	12	-	1	-	14	-	-	3
076 Coach, carriage, wagon builders and repairers										12	-	-	-	-	1	1	-	-	-	-	12
077 Inspectors (metal and electrical goods)										36	-	-	-	36	1	1	-	38	4	2	42
078 Other metal making, working; jewellery and electrical production process workers										57	2	3	-	52	10	6	-	68	1	1	62
VIII. Woodworkers										121	2	(3)	-	119	5	(3)	1	125	3	2	129
080 Carpenters and joiners										85	2	-	-	83	1	-	-	84	2	-	89
081 Cabinet makers										7	-	-	-	7	1	-	-	8	-	1	8
082 Sawyers and wood working machinists										16	-	2	-	14	2	1	1	18	-	1	18
083 Coopers, hoop makers and benders										3	-	1	-	5	-	-	-	2	1	-	4
084 Pattern makers										5	-	-	-	5	1	2	-	5	-	-	5
085 Woodworkers n.e.c.										5	-	-	-	5	-	-	-	8	-	-	5
IX. Leather workers										32	-	-	-	32	-	-	-	32	2	-	37
090 Tanners; leather, fur dressers, fellmongers										2	-	-	-	2	-	-	-	2	-	-	3
091 Shoemakers and shoe repairers										14	-	-	-	14	-	-	-	14	-	-	14
092 Cutters, lasters, sewers, footwear, and related workers										10	-	-	-	10	-	-	-	10	2	-	13
093 Leather products makers n.e.c.										6	-	-	-	6	-	-	-	6	-	-	7
X. Textile workers										46	-	(2)	-	46	7	(2)	-	53	-	2	49
100 Fibre preparers										6	-	-	-	6	1	-	-	7	-	-	6
101 Spinners, doublers, winders, reelers										6	-	-	-	6	-	-	-	6	1	-	7
102 Warpers, sizers, drawers-in										3	-	-	-	3	-	-	-	3	-	-	3
103 Weavers										9	-	-	-	9	-	1	-	10	-	-	9
104 Knitters										5	-	-	-	5	3	-	-	8	-	-	6
105 Bleachers and finishers of textiles										4	-	-	-	4	1	1	-	6	-	1	5
106 Dyers of textiles										5	-	1	-	4	-	-	-	4	-	-	5
107 Textile fabrics and related products makers and examiners n.e.c.										2	-	-	-	2	-	-	-	2	-	-	2
108 Textile fabrics etc. production process workers n.e.c.										6	-	1	-	5	2	-	-	7	-	-	6

* Includes one person returned as Retired at Census but Active on P.E.S.

Table 40 Comparison of Census with Post-enumeration survey:
Occupation - Economically active and retired - Males - continued

Occupation	Checked										Unchecked		Total
	Successfully												
	As stated at census					As stated at post-enumeration survey							
	Total	P.E.S. showing			Census and P.E.S. agree	Census showing			Total	Unsuccess-fully	No contact	Refusal	
		Different order	Same order but different unit	Other inactive		Different order	Same order but different unit	Other inactive					
XI. Clothing workers													
110 Tailors; dress, light clothing makers	31	1	(1)	-	30	-	(1)	-	30	1	2	1	35
111 Upholsters and related workers	10	-	-	-	10	-	-	-	10	-	1	1	12
112 Sewers and embroiderers, textile and light leather products	7	1	-	-	6	-	1	-	7	-	-	-	7
113 Clothing and related products makers n.e.c.	7	-	1	-	6	-	-	-	6	1	1	-	9
XII. Food, drink and tobacco workers													
120 Bakers and pastry cooks	87	5	-	-	82	3	-	-	85	3	3	4	97
121 Butchers and meat cutters	18	3	-	-	15	-	-	-	15	-	-	1	19
122 Brewers, wine makers and related workers	39	-	-	-	39	1	-	-	40	2	1	1	43
123 Food processors n.e.c.	1	-	-	-	1	1	-	-	2	1	1	1	2
124 Tobacco preparers and products makers	27	1	-	-	26	1	-	-	27	1	2	1	31
	2	1	-	-	1	-	-	-	1	-	2	-	2
XIII. Paper and printing workers													
130 Makers of paper and paperboard	63	-	(5)	-	63	2	(5)	-	65	-	1	2	66
131 Paper products makers	11	-	-	-	11	-	-	-	11	-	-	-	11
132 Compositors	8	-	-	-	8	-	-	-	8	-	-	-	8
133 Printing press operators	10	-	1	-	9	-	2	-	11	-	-	-	10
134 Printers (so described)	17	-	-	-	17	1	3	-	21	-	1	1	19
135 Printing workers n.e.c.	10	-	4	-	6	1	-	-	7	-	-	-	11
	7	-	-	-	7	-	-	-	7	-	-	-	7
XIV. Makers of other products													
140 Workers in rubber	63	10	(1)	-	53	6	(1)	-	59	1	-	2	66
141 Workers in plastics	16	3	1	-	12	-	-	-	12	-	-	1	17
142 Craftsmen n.e.c.	11	-	-	-	11	1	-	-	12	-	-	-	11
143 Other production process workers	19	6	-	-	13	3	-	-	16	-	-	-	19
	17	1	-	-	16	2	1	-	19	1	-	1	19
XV. Construction workers													
150 Bricklayers, tile setters	134	6	(2)	-	128	14	(2)	-	142	7	2	8	151
151 Masons, stone cutters, slate workers	44	-	2	-	42	2	-	-	44	-	-	1	45
152 Plasterers, cement finishers, terrazzo workers	5	-	-	-	5	-	-	-	5	2	-	-	7
153 Builders (so described); clerks of works	14	-	-	-	14	-	-	-	14	1	1	-	16
154 Construction workers n.e.c.	13	1	-	-	12	1	2	-	13	1	-	-	14
	58	5	-	-	53	11	-	-	66	3	1	7	69
XVI. Painters and decorators													
160 Aerographers, paint sprayers	88	1	(1)	-	87	7	(1)	-	94	3	1	1	93
161 Painters, decorators n.e.c.	13	-	1	-	12	1	-	-	13	-	-	-	13
	75	1	-	-	74	6	1	-	81	-	1	1	80

	88	4	-	-	84	16	-	-	100	1	2	1	92
XVII. Drivers of stationary engines, cranes, etc.													
170 Boiler firemen	18	1	-	-	17	1	-	-	18	-	-	-	18
171 Crane and hoist operators; slingers	27	1	-	-	4	4	-	-	30	1	1	-	29
172 Operators of earth moving and other construction machinery n.e.c.	9	-	-	-	9	-	-	-	9	-	-	-	9
173 Boiler scalers	2	-	-	-	2	1	-	-	3	-	-	-	2
174 Stationary engine, materials handling plant operators n.e.c.; oilers and greasers	32	2	-	-	30	10	-	-	40	-	1	-	34
XVIII. Labourers n.e.c.													
180 Railway lengthmen	386	44	-	-	342	26	-	-	368	17	12	15	430
181 Labourers and unskilled workers n.e.c.	15	-	-	-	15	1	-	-	16	1	-	-	16
182 Chemical and allied trades	12	1	-	-	11	1	-	-	12	1	-	1	14
183 Engineering and allied trades	79	15	-	-	64	10	-	-	74	5	4	5	93
184 Foundries in engineering and allied trades	4	3	-	-	4	-	-	-	4	-	-	-	4
185 Textiles (not textile goods)	9	1	-	-	6	-	-	-	6	-	-	-	9
186 Coke ovens and gas works	4	1	-	-	3	1	-	-	4	-	-	-	4
186 Glass and ceramics	11	-	-	-	11	-	-	-	11	-	-	-	11
187 Building and contracting	77	9	-	-	68	3	-	-	71	5	1	1	84
188 Other	175	15	-	-	160	10	-	-	170	5	7	8	195
XIX. Transport and communications workers													
190 Deck, engineering officers and pilots, ship	395	8	(1)	-	387	17	(1)	4	408	9	11	11	426
191 Deck and engineroom ratings, barge and boatmen	11	-	-	-	11	-	-	-	11	-	-	-	11
192 Aircraft pilots, navigators and flight engineers	10	-	-	-	10	1	-	-	11	-	1	-	11
193 Drivers, motormen, firemen, railway engine	2	-	-	-	2	-	-	-	2	-	-	-	2
194 Railway guards	15	-	-	-	15	-	-	2	17	-	2	1	18
195 Drivers of buses, coaches, trams	7	-	-	-	7	-	-	-	7	1	-	1	9
196 Drivers of other road passenger vehicles	31	-	-	-	31	1	-	-	32	-	-	-	31
197 Drivers of road goods vehicles	19	-	-	-	19	2	-	-	21	-	-	1	20
198 Inspectors, supervisors, transport	150	5	1	-	144	2	1	1	148	3	4	3	160
199 Shunters, pointsmen	9	1	-	-	8	1	-	-	9	2	-	-	11
200 Traffic controllers and dispatchers, transport	7	-	-	-	7	-	-	-	7	-	1	-	8
201 Telephone operators	14	-	-	-	14	-	-	-	14	-	-	1	15
202 Telegraph and radio operators	5	-	-	-	5	-	-	-	5	1	1	-	7
203 Postmen, mail sorters	3	-	-	-	3	2	-	-	5	-	-	-	3
204 Messengers	30	1	-	-	30	2	-	-	33	1	1	2	34
205 Bus and tram conductors	7	-	-	-	6	-	-	-	6	-	1	-	8
206 Porters, ticket collectors, railway	25	-	-	-	25	1	-	-	26	-	-	-	25
207 Stevedores, dock labourers	15	-	-	-	15	-	-	-	15	-	-	-	15
208 Lorry drivers' mates, van guards	24	1	-	-	23	3	-	-	26	-	-	1	25
209 Workers in transport and communication occupations n.e.c.	9	-	-	-	9	1	-	-	10	1	-	-	11
	2	-	-	-	2	1	-	-	3	-	-	-	2
XX. Warehousemen, storekeepers, packers, bottlers													
210 Warehousemen, storekeepers and assistants	155	1	(3)	-	154	24	(3)	-	178	6	4	11	176
211 Packers, labellers and related workers	134	-	2	-	132	21	1	-	154	5	3	8	150
XXI. Clerical workers													
220 Typists, shorthand writers, secretaries	21	1	1	-	19	3	2	-	24	1	1	3	26
221 Clerks, cashiers, office machine operators	351	14	(2)	-	337	11	(2)	-	348	15	9	12	387
222 Civil service executive officers	4	1	-	-	3	-	-	-	3	2	-	-	6
223 Civil servants, local authority officials (so described)	325	11	-	-	314	10	2	-	326	13	9	12	359
	17	1	-	-	16	1	-	-	17	-	-	-	17
	5	1	2	-	2	-	-	-	2	-	-	-	5
XXII. Sales workers													
230 Proprietors and managers, food sales	369	11	(17)	-	358	13	(17)	1	372	13	14	15	411
231 Proprietors and managers, non-food sales	50	2	1	-	47	2	2	-	51	-	3	3	56
232 Shop salesmen and assistants, food	110	4	8	-	106	3	1	-	111	6	6	11	125
	23	-	-	-	15	-	3	-	18	-	1	1	25

Table 40 Comparison of Census with Post-enumeration survey:
Occupation - Economically active and retired - Males - continued

Occupation	Checked										Unchecked		Total	
	Successfully										Unsuccessful- fully	No contact		Refusal
	As stated at census					As stated at post-enumeration survey								
	Total	P.E.S. showing			Census and P.E.S. agree	Census showing			Total					
		Different order	Same order but different unit	Other inactive		Different order	Same order but different unit	Other inactive						
XXII. Sales workers - continued														
233 Shop salesmen and Assistants, non-food	43	1	5	-	37	2	1	-	38	1	-	2	46	
234 Roundsmen (bread, milk, laundry, soft drinks)	9	-	-	-	9	-	5	-	16	-	-	-	11	
235 Street vendors, hawkers	16	2	-	-	14	1	2	-	17	1	1	1	19	
236 Garage proprietors	1	-	-	-	1	1	-	-	2	-	-	-	1	
237 Commercial travellers, manufacturers' agents	66	2	2	-	62	2	3	-	67	3	-	2	71	
238 Finance, insurance brokers, financial agents	4	-	-	-	4	1	-	-	5	-	-	1	5	
239 Salesmen, services; valuers, auctioneers	47	-	1	-	46	1	-	-	47	2	1	2	52	
XXIII. Service, sport and recreation workers														
229	229	3	(1)	-	226	10	(1)	1	237	9	6	10	254	
12 Fire brigade officers and men	12	-	-	-	12	1	-	-	13	-	1	-	13	
28 Police officers and men	28	-	-	-	28	-	-	-	28	-	-	-	29	
23 Guards and related workers n.e.c.	23	-	-	-	23	1	-	-	24	1	-	-	25	
253 Publicans, innkeepers	30	1	-	-	29	-	-	-	29	1	-	-	32	
254 Barmen, barmaids	7	-	1	-	6	1	-	-	7	-	1	-	8	
255 Lodging house, hotel keepers, housekeepers, stewards and matrons	6	-	-	-	6	-	-	-	6	-	1	-	8	
18 Stewards and waiters, counter hands	18	-	-	-	18	-	1	1	20	1	-	1	20	
257 Cooks	11	-	-	-	11	1	-	-	12	-	-	-	11	
258 Kitchen hands	3	1	-	-	2	-	-	-	2	-	-	-	3	
259 Maids, valets and related service workers n.e.c.	6	-	-	-	6	-	-	-	6	1	-	1	8	
260 Caretakers, office keepers	20	1	-	-	19	-	-	-	19	2	-	-	22	
261 Chimney sweeps	-	-	-	-	-	-	-	-	-	-	-	-	-	
262 Charwomen, office cleaners; window cleaners	15	-	-	-	15	2	-	-	17	1	1	-	17	
263 Hairdressers, manicurists, beauticians	14	-	-	-	14	-	-	-	14	-	-	1	15	
264 Launderers, dry cleaners and pressers	4	-	-	-	4	1	-	-	5	-	-	-	4	
265 Athletes, sportsmen and related workers	2	-	-	-	2	-	-	-	2	-	1	-	3	
266 Hospital or ward orderlies; ambulance men	7	-	-	-	7	3	-	-	10	1	-	-	8	
267 Service, sport and recreation workers n.e.c.	23	-	-	-	23	-	-	-	23	1	2	2	28	
XXIV. Administrators and managers														
197	197	8	(5)	-	189	11	(5)	2	202	9	5	9	220	
XXIV. Administrators and managers														
270 Ministers of the Crown; M.Ps. (n.e.c.); senior government officials	4	-	-	-	4	1	-	-	5	-	-	-	4	
271 Local authority senior officers	9	-	-	-	9	-	-	-	9	1	-	-	10	
272 Managers in engineering and allied trades	35	-	2	-	33	2	-	2	37	1	-	-	36	
273 Managers in building and contracting	17	2	-	-	15	1	-	-	16	3	-	1	21	
274 Managers in mining and production n.e.c.	40	2	1	-	37	4	1	-	42	-	1	3	44	

because the differences between the census answers and those given to the post-enumeration survey were a combination of differences due to the more specific nature of the check questions and to errors and mistakes on the part of the people completing the original census schedules.

The difference between the two sets of answers was increased by the different approaches at the coding stage. The census data was coded under normal working conditions which involved a straightforward coding of the occupation term stated on the schedule with no particular attention to the other information stated on the schedule. Under normal census conditions attention had to be paid to maintaining a high rate of output. The post-enumeration survey data on the other hand was coded with much more individual attention. This involved taking account not only of the more detailed information given in reply to the occupation questions but also all the other related information - particularly with respect to industry.

Table 40 shows that 5,178 economically active and retired men were included in the sample. Of the total, 4,743 gave sufficiently good information for the check to be successful. In addition to the 113 men with whom no contact could be made and 160 where the information was refused, there were a further 172 for whom the check was not successful. These were mostly men for whom the occupation questions, or one of the related economic questions, were not answered. Anyone for whom any part of the information on economic activity was not given at the post-enumeration survey was omitted from the occupation comparison.

Among those for whom the check was successful, 10 had been returned on the census form as being in the "other inactive" group. Of the remainder 4,349 (92 per cent) showed agreement between the census and the post-enumeration survey. Considering the differences of approach noted above this was a satisfactory result. This generally high level of agreement naturally conceals much larger differences for particular occupations. Among those whose occupations differed between census and the post-enumeration survey, 135 (35 per cent) were assigned to the same occupation order but to different units within that order and the remaining 249 were assigned to different occupation orders. While such a classification is useful as an indication of the greater reliability of occupation order figures compared with occupation unit figures, these two types of error do not represent different degrees of error. A large proportion of the differences were due to the collection of more specific information at the post-enumeration survey and this was found to affect certain occupation units, and hence occupation orders, which tend to attract those for whom relatively vague occupation statements were made. The occupation classification was not designed in such a way that the closeness of the stated occupation unit to the true occupation unit could be taken as a measure of the accuracy of the statement made.

An extreme example of this phenomenon was occupation unit 330 - inadequately described occupations - which in the sample was reduced from 81 on the census count to 8 on the post-enumeration survey count. Similar groups were occupation units 182 "Labourers n.e.c. - engineering and allied trades" and 188 "Labourers n.e.c. - other (trades)" which were modified considerably between the census and the survey:-

Unit	Number allocated at census	Number allocated at census and at P.E.S.	Number allocated at P.E.S.
182	79	64	74
188	175	160	170

The changes in these two occupation units illustrate a more general point. In both, the total allocated at the census did not differ greatly from the total allocated at the post-enumeration survey. The number with the same coding at the census and the survey was rather lower and it is the ratio of this agreed figure to the totals which should be regarded as a measure of the reliability of any particular unit. Only if the characteristics of those moving into a unit and those moving out were the same as those not moving could the chance near agreement of the two totals be regarded as an indication of reliability. In practice, those moving in or out are likely to differ from the constant element (the very fact that those moving were originally coded differently is an indication of likely bias in itself).

Similar effects due to the use of more specific information at the post-enumeration survey appear in several places in Table 40 and were particularly noticeable within those occupation orders which relate to an industry. Here a less specific unit tended to be over-stated at the census because of the imprecise nature of the information given. Examples were units 013 (coal miners, so

described), 056 (electrical engineers, so described) and 068 (engineers, so described and unspecified engineering apprentices). The comparison for those units was:-

Unit	Number allocated at census	Number allocated at census and at P.E.S.	Number allocated at P.E.S.
013	22	0	3
056	6	0	0
068	58	24*	24*

* Engineering apprentices

Separate figures were produced in a form similar to Table 40 for economically active and retired men separately and also for married women and for single, widowed and divorced women. The pattern shown by these tables was generally similar to that of Table 40 and in the few instances where there were signs of differences the numbers in the sample were too small to show whether or not these were significant. Figures can be supplied on request but the tables have not been reproduced here.

Comparison with death registration records

The opportunity provided by the death matching exercise already mentioned was taken to compare the occupation statements at death registration with those at the census. Such a comparison was possible only for those enumerated as part of the ten per cent sample.

A summary of the results of this comparison is given in Table 41 which shows, for each occupation order, the numbers in the sample assigned to units in that order at death registration and at census, the numbers who were assigned to the same occupation unit on both occasions and those assigned to different units classified according to whether they were assigned to different units within the same occupation order or to completely different occupation orders.

Table 41 Comparison of Census with Death Registers: Occupations - Economically active males England and Wales

Occupations orders,	As stated in death register			As stated at census			
	Census showing			Death register and census agree	Death register showing		
	Total	Different order	Same order but different unit		Different order	Same order but different unit	Total
All occupations	2,196*	581*	225	1,390	577	225	2,192
I. Farmers, foresters, fishermen	80	4	2	74	31	2	107
II. Miners and quarrymen	80	5	34	41	26	34	101
III. Gas, coke and chemicals makers	12	3	-	9	3	-	12
IV. Glass and ceramics makers	11	5	-	6	2	-	8
V. Furnace, forge, foundry, rolling mill workers	28	6	1	21	18	1	40
VI. Electrical and electronic workers	28	7	4	17	9	4	30
VII. Engineering and allied trades workers,n.e.c.	244	46	34	164	55	34	253
VIII. Woodworkers	46	6	-	40	7	-	47
IX. Leather workers	19	4	1	14	5	1	20
X. Textile workers	28	6	2	20	13	2	35
XI. Clothing workers	15	-	2	13	1	2	16
XII. Food, drink and tobacco workers	34	8	-	26	18	-	44
XIII. Paper and printing workers	20	2	5	13	7	5	25
XIV. Makers of other products	13	6	-	7	2	-	9
XV. Construction workers	71	18	4	49	20	4	73
XVI. Painters and decorators	37	5	2	30	11	2	43
XVII. Drivers of stationary engines, cranes, etc.	48	18	1	29	18	1	48
XVIII. Labourers n.e.c.	221	64	59	98	81	59	238
XIX. Transport and communications workers	176	24	6	146	53	6	205
XX. Warehousemen, storekeepers, packers, bottlers	103	37	4	62	21	4	87
XXI. Clerical workers	182	32	12	138	37	12	187
XXII. Sales workers	156	33	15	108	37	15	160
XXIII. Service, sport and recreation workers	192	43	12	137	33	12	182
XXIV. Administrators and managers	84	25	8	51	28	8	87
XXV. Professional, technical workers, artists	101	17	10	74	19	10	103
XXVI. Armed forces (British and foreign)	11	1	7	3	12	7	22
XXVII. Inadequately described occupations	156	156	-	-	10	-	10

* Includes 4 males registered at death as "Students".

This table excludes 41 males with no occupation or occupation not stated at census or death and 13 males with no occupation at census and death.

A total of 2,196 males were matched and of these 1,390 (63 per cent) were assigned to the same occupation unit at death registration and at the census. Among the discrepancies nearly three in ten were assigned to different units within the same order and seven in ten to different orders.

This was a relatively low level of agreement. Since it could have serious effects on studies of occupational mortality some further investigation seemed to be called for. A small sample of 99 discrepancies was examined and classified into the following groups:-

(i)	Occupation order XXVII (Inadequately described occupation) assigned at census	27
(ii)	Apparently the same job, but with a more specific description at either census or death registration	16
(iii)	Different jobs but related (e.g. they were in the same industry)	16
(iv)	Different jobs with no apparent connection	35
(v)	Two occupations stated at death registration	1
(vi)	Part-time occupation stated at census	2
(vii)	Coding error	2
		<u>99</u>

Some of the allocation of particular men into these groups must be somewhat subjective but the broad picture is not likely to have been distorted.

Those included in group (iv) and most of those in group (iii) represent the hard core of the problem. In most instances the occupations stated are completely different; thus for example a "collector, Gas Board" death registration was enumerated as "painter and decorator", a "retired steelworks labourer" at death was enumerated as "butcher's assistant" at the census, and a "painter and decorator" at death was enumerated as "belt hand" at the census. More detailed analysis of a larger group would be needed to demonstrate whether there were significant differences according to the relationship of the informant at death registration or according to the relationship of the deceased to the head of the household at the census. The root cause of many of the discrepancies is likely to be those people who change their occupation during their working life and, in particular, those who move to a less exacting job either as they became older or following an accident or illness.

This effect is likely to lie behind some of the figures for Occupation Order II (Miners and Quarrymen) in Table 41. This table shows 26 men were assigned to this order at death but to a different order at the census whereas only 5 men assigned to this order at the census were assigned to a different order at death registration. These changes are likely to stem from a net movement out of a relatively arduous group of occupations during a man's working life but this occupation is recalled at death registration instead of the actual last full-time employment which is the information sought at death registration. A similar effect is apparent from Order XXVI (Armed Forces).

Over most occupations there seems to be no general tendency for the answer given at death registration to be more specific than that given at the census. The one large exception to this was the great reduction in the numbers assigned to Order XXVII (Inadequately described occupation). In Table 41 - 156 were assigned to this group at the census but only 10 at death registration - nobody being assigned to this order on both occasions. This must reflect the difficulties in obtaining satisfactory information at the census in respect of a person who was likely to be seriously ill at the time of the census.

Another feature apparent in the figures for miners and quarrymen was the considerable movement between units within that order. Examination of the detailed figures for occupation units (not reproduced here) shows that nearly half of these shifts related to transfers out of code 013 (miners so described) as a result of a more specific description being given in the alternative source. This is another illustration of the point made in respect of the comparison with the post-enumeration survey that a more specific description of a job can result in a change in the unit assigned and that certain occupation units (including 013) are specially susceptible to such changes.

Hours worked by part-time workers

In section 16 of the post-enumeration survey Form PES.3, the number of hours worked was checked. The question on number of hours on the census schedule was addressed only to those working part-time, part-time being defined as "less than the normal hours in the employment". This was a subjective definition and there may well be some lack of consistency in the allocation of a particular employment

to the full-time or part-time category. Since part-time working is predominantly a characteristic of the employment of women, the comparison between census and post-enumeration survey has been made only for women, not for men. The results of this comparison appear in Table 42. The questions (ii)(a) and (ii)(b) of section 16 on the post-enumeration survey form, as printed, erroneously contained the phrase "including meal breaks" instead of "excluding meal breaks". A correction was issued but a considerable proportion of the forms were not amended and have had to be omitted from the comparison made on this topic. There are 221 (34%) such women out of the 646 included in Table 42.

The number of hours was confirmed for 83 per cent of all the women originally returned as part-time workers. The proportion of agreement varied considerably between different groups of hours but for those working between 12 and 36 hours a week, who made up 77 per cent of the total stated to be working part-time, the proportion of agreement was a little higher at 85 per cent. About two in five of all the errors involved a shift into an adjoining group of hours which was not really serious but, on the other hand, a further quarter of the errors involved a shift out of the part-time group into the full-time category. The movement from the economically inactive group into the group working part-time has already been mentioned in the discussion of economic position and employment status.

Social class

Comparisons have been made between the allocation to social class based on the occupation statement at the census on the one hand and the allocations based on the statements made at the post-enumeration survey and at death registration.

The results of the comparison with the post-enumeration survey are shown in Table 43 in which men and single, widowed and divorced women are allocated according to their own occupation statement. For men the level of agreement was high, when those not classified and those inactive are omitted from the totals. Even for Social Class V, where the difference was greatest, the proportion of agreement between census and post-enumeration survey was 91 per cent. For Social Classes I to III it was 97 per cent. For women the level of agreement was lower but for Social Classes II - IV it reached 94-96 per cent. For Social Class V the proportion of agreement was lower mainly due to shifts between this group and Social Class IV.

Table 43 Comparison of Census with Post-enumeration survey:
Social class

England and Wales

Social class as derived from census	Social class as derived from post-enumeration survey												
	Checked									Unchecked		Total	
	Successfully							Unsuccess- fully	Total	No contact	Refusal		
	I	II	III	IV	V	Not classified	Inactive						
Males													
I. Professional, etc. occupations	175	1	4	-	-	-	-	180	14	194	7	12	213
II. Intermediate occupations	2	699	13	9	-	-	-	723	51	774	24	21	819
III. Skilled occupations	9	13 2,288	29	6	-	-	-	2,345	110	2,455	46	72	2,573
IV. Partly skilled occupations	-	4	36	875	15	-	-	930	64	994	18	30	1,042
V. Unskilled occupations	-	-	15	22	393	-	-	430	35	465	13	17	495
Not classified	-	11	33	16	11	53	-	124	54	178	4	8	190
Inactive	-	3	6	2	-	-	170	181	14	195	8	7	210
Total	186	731	2,395	953	425	53	170	4,913	342	5,255	120	167	5,542
Females (Single, Widowed and Divorced)													
I. Professional etc. occupations	4	1	-	-	-	-	-	5	5	10	2	-	12
II. Intermediate occupations	-	164	1	2	-	-	3	170	27	197	9	5	211
III. Skilled occupations	1	4	519	9	2	-	11	546	49	595	15	29	639
IV. Partly skilled occupations	-	-	3	245	4	-	8	260	17	277	10	11	298
V. Unskilled occupations	-	-	-	8	47	-	3	58	3	61	-	1	62
Not classified	-	3	5	7	1	1	6	23	34	57	5	4	66
Inactive	-	5	11	10	6	-	742	774	53	827	39	22	888
Total	5	177	539	281	60	1	773	1,836	188	2,024	80	72	2,176

The comparison, based on the death registration data, is shown in Table 44. The level of agreement between social classes was lower here than for the comparison with the post-enumeration survey. This was to be expected because the level of agreement among the occupations was so much lower. The level of agreement varied between 87 per cent for Social Class III to 71 per cent for Social Class IV. Nevertheless the totals allocated to the social classes are similar once the not classified and the inactive have been omitted from the comparison.

Table 44 Comparison of Census with Death Registers:
Social class - Males

England and Wales

Social class as derived from census	Social class as derived from death register							Total	
	I.	II.	III.	IV.	V.	Not classified	Inactive	Number	Percentage
I. Professional, etc. occupations	37	4	7	-	-	-	-	48	2.13
II. Intermediate occupations	3	248	41	6	1	4	2	305	13.56
III. Skilled occupations	6	33	809	59	22	6	3	938	41.69
IV. Partly skilled occupations	1	10	89	345	41	3	1	490	21.78
V. Unskilled occupations	-	1	30	37	184	4	-	256	11.38
Not classified	3	22	65	28	27	13	3	161	7.16
Inactive	1	6	15	11	4	1	14	52	2.31
Total	51	324	1,056	486	279	31	23	2,250	
Percentage	2.27	14.40	46.93	21.60	12.40	1.38	1.02		

Socio-economic group

A comparison was made between the allocation to socio-economic group based on the statements of occupation and employment status given at the census and the post-enumeration survey. Separate figures are given of economically active and inactive men and women in Table 45.

For men the level of agreement was generally high, the lowest proportions of agreement being 89 per cent for farmers - employers and managers (Socio-economic group 13) and 91 per cent for unskilled manual workers (Socio-economic group 11). The area of most variation appears to be in Socio-economic groups 9 to 11, which represent manual workers classified by skill. It is here that the more specific statements made on the post-enumeration survey would be expected to have the greatest impact.

For women, the numbers in the sample allocated to some of the socio-economic groups were too small for meaningful comparisons to be made. Where the numbers involved were satisfactory the level of agreement was a little lower than for men.

Industry

Table 46 shows a comparison at order level of the industry allocated to economically active men according to the statements made at the census and at the post-enumeration survey.

As will be seen the general level of agreement was high being nearly 99 per cent for all industries combined. This close agreement was in marked contrast to that found for occupations. This is because the industry allocation depends on the name and address of the employer which is much more definite and unambiguous than a statement of occupation.

Household composition

The tables on household composition published from the 1961 Census were mainly tables describing the structure and characteristics of private households and the type of family and people which make up such households. These tables, therefore, included many where some of the axes of classification had been examined elsewhere in the post-enumeration survey. The main faults revealed in these characteristics by the post-enumeration survey should be remembered when such items appear in the *Household Composition Tables* in the same way as when they appear in tables relating to that particular item. The main item of information on the census schedule which had specific schedule relevance to the *Household Composition Tables* was the relationship of each person to the head of the household. This statement of relationship was the basis of the analysis of households into families and hence into household type which is the basis of many of the *Household Composition Tables*.

Table 45 Comparison of Census with Post-enumeration survey:
Socio-economic group

England and Wales

Socio-economic group as derived from post-enumeration survey																										
Checked																										
Socio-economic group as derived from census	Successfully																		Unsuccessfully		Unchecked		Total			
	1. Employers and managers in central and local government, industry, commerce, etc. - large establishments	2. Employers and managers in industry, commerce, etc. - small establishments	3. Professional workers - self-employed	4. Professional workers - employees	5. Intermediate non-manual workers	6. Junior non-manual workers	7. Personal service workers	8. Foremen and supervisors - manual	9. Skilled manual workers	10. Semi-skilled manual workers	11. Unskilled manual workers	12. Own account workers (other than professional)	13. Farmers - managers and managers	14. Farmers - own account	15. Agricultural workers	16. Members of armed forces	17. Indefinite	Total	Inactive	Total	No contact	Refusal				
a	b	c	d	e	f	g	h	i	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z	
1. Employers and managers in central and local government, industry, commerce, etc. - large establishments	179	2	-	-	1	1	-	2	2	2	1	-	1	-	-	-	-	-	-	-	189	15	204	6	11	221
2. Employers and managers in industry, commerce, etc. - small establishments	2	268	31	1	1	-	-	-	-	1	1	-	-	-	-	-	-	-	-	-	274	20	294	9	14	317
3. Professional workers - self-employed	-	-	31	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	5	37	5	4	46
4. Professional workers - employees	2	1	-	144	2	1	-	-	-	2	2	-	-	-	-	-	-	-	-	-	149	17	166	3	6	175
5. Intermediate non-manual workers	2	1	-	-	177	3	-	1	-	-	2	-	-	-	-	-	-	-	-	-	186	8	194	7	1	202
6. Junior non-manual workers	1	6	-	6	-	575	-	-	-	3	4	-	-	-	-	-	-	-	-	-	595	40	635	13	22	670
7. Personal service workers	-	1	-	-	-	-	43	-	-	-	-	-	-	-	-	-	-	-	-	-	44	2	46	-	3	49
8. Foremen and supervisors - manual	2	3	-	3	2	2	-	144	1	1	-	-	1	-	-	1	-	-	-	-	149	2	151	2	5	158
9. Skilled manual workers	1	1	-	1	-	1	-	15 1,451	5	26	631	9	-	-	-	-	1	-	-	-	1,506	70	1,576	27	43	1,646
10. Semi-skilled manual workers	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	676	46	722	10	19	751
11. Unskilled manual workers	-	-	-	-	-	1	-	3	11	24	387	-	-	-	-	-	-	-	-	-	426	36	462	11	14	487
12. Own account workers (other than professional)	-	4	-	-	-	-	-	-	-	2	1	-	147	-	-	-	-	-	-	-	154	13	167	5	7	179
13. Farmers - employers and managers	-	-	-	-	-	-	-	-	-	-	1	-	40	3	1	-	-	-	-	-	45	3	48	3	2	53
14. Farmers - own account	-	-	-	-	-	-	-	-	-	-	-	-	3	45	-	-	-	-	-	-	48	4	48	2	1	50
15. Agricultural workers	-	-	-	-	-	-	-	-	-	-	-	1	-	1	133	-	-	-	-	-	135	4	139	2	2	142
16. Members of armed forces	1	3	-	-	3	10	2	3	19	16	11	2	-	1	-	-	48	-	-	-	49	10	59	5	2	66
17. Indefinite	-	-	-	-	-	-	-	-	-	6	-	-	2	-	-	-	-	4	-	-	75	51	126	2	6	134
Inactive	-	2	-	-	-	-	1	-	-	-	-	-	2	-	-	-	-	-	170	181	-	181	8	7	196	
Total	188	291	32	155	187	595	46	173 1,524	703	413	154	44	50	136	48	4	170	5,255	120	167	4,913	342	5,255	120	167	5,542

a	b	c	d	e	f	g	h	j	k	l	m	n	o	p	q	r	s	t	u	v	w	x	y	z
									Females															
1. Employers and managers in central and local government, industry, commerce, etc. - large establishments	8	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	9	8	17	1	-	18
2. Employers and managers in industry, commerce, etc. - small establishments	-	23	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	24	3	27	-	-	27
3. Professional workers - self-employed	1	-	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	5	10	2	-	12
4. Professional workers - employees	1	-	-	-	105	1	-	-	-	-	-	-	-	-	-	-	-	2	109	13	122	7	2	131
5. Intermediate non-manual workers	-	1	-	1	-	418	1	-	1	-	-	-	-	-	-	-	-	7	429	49	478	13	21	512
6. Junior non-manual workers	-	-	-	-	-	-	119	-	-	-	1	-	-	-	1	-	-	5	126	8	134	11	4	149
7. Personal service workers	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	1	6	-	6	-	-	6
8. Foremen and supervisors - manual	-	-	-	-	-	-	-	-	70	6	1	-	-	-	-	-	-	4	81	5	86	-	5	91
9. Skilled manual workers	-	-	-	-	-	3	-	-	2	138	4	-	-	-	-	-	-	4	151	7	158	3	9	170
10. Semi-skilled manual workers	-	-	-	-	-	-	-	-	-	7	50	-	-	-	-	-	-	3	61	1	62	-	1	63
11. Unskilled manual workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	19	-	3	22
12. Own account workers (other than professional)	-	1	-	-	-	-	-	-	-	-	-	18	-	-	-	-	-	-	1	-	1	-	-	1
13. Farmers - employers and managers	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	4	-	4	-	-	4
14. Farmers - own account	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	14	-	14	-	-	14
15. Agricultural workers	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
16. Members of armed forces	-	-	-	-	2	3	1	1	2	5	1	-	1	-	-	-	-	6	23	34	57	5	4	66
17. Indefinite	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Inactive	2	-	-	-	1	3	1	-	2	3	-	2	-	-	-	-	-	760	774	55	829	38	23	890
Total	12	25	-	5	108	430	123	6	77	159	57	20	1	5	15	-	1	792	1,836	188	2,024	80	72	2,176

Table 46 Comparison of Census with Post-enumeration survey:
Industry - Persons in employment

England and Wales

Industry	Checked												Unchecked		Total
	Successful														
	As stated at census						As stated at post-enumeration survey								
	Total	P.E.S. showing				Census and P.E.S. agree	Census showing				Unsuccessful	No contact	Refusal		
		Active		Inactive or out of employment	Active		Inactive or out of employment								
		Different order	Same order		Different order			Same order							
unit									unit						
	order	M.L.H.	unit	Different order	Same order	M.L.H.	unit	Different order	Same order	M.L.H.	unit	Total			
All Industries	4,221	34	6	(7)	5	4,176	34	6	(7)	13	4,229	82	99	139	4,541
I. Agriculture, forestry, fishing	200	1	-	(1)	-	199	3	-	(1)	1	203	2	8	4	214
II. Mining and quarrying	179	1	-	-	1	177	-	-	-	-	177	-	-	-	179
III. Food, drink and tobacco	113	-	-	-	-	113	1	-	-	1	115	4	6	1	124
IV. Chemicals and allied industries	110	3	-	(1)	1	106	1	-	(1)	1	108	3	2	2	115
V. Metal manufacture	163	1	1	-	-	161	1	1	-	-	163	4	2	5	174
VI. Engineering and electrical goods	435	5	2	-	-	428	2	2	-	-	432	12	7	12	466
VII. Shipbuilding and marine engineering	58	-	-	-	-	58	1	-	-	-	59	-	-	2	60
VIII. Vehicles	206	-	-	-	-	206	-	-	-	1	207	1	6	7	220
IX. Metal goods not elsewhere specified	105	1	-	-	-	104	-	-	-	-	104	5	-	1	111
X. Textiles	92	1	-	-	-	91	-	-	-	1	92	1	1	4	98
XI. Leather, leather goods and fur	8	-	-	-	-	8	-	-	-	-	8	-	1	3	12
XII. Clothing and footwear	34	-	-	-	-	34	-	-	-	-	34	1	2	2	39
XIII. Bricks, pottery, glass, cement, etc.	65	1	-	-	-	64	1	-	-	-	65	1	2	1	69
XIV. Timber, furniture, etc.	57	-	-	-	1	56	2	-	-	-	58	-	1	4	62
XV. Paper, printing and publishing	106	-	-	-	-	106	-	-	-	1	107	3	2	5	116
XVI. Other manufacturing industries	50	-	-	-	-	50	1	-	-	-	51	-	-	5	55
XVII. Construction	366	1	-	-	-	365	4	-	-	2	371	10	9	12	397
XVIII. Gas, electricity and water	90	-	-	-	-	90	-	-	-	-	90	3	1	5	98
XIX. Transport and communication	415	2	-	-	-	413	4	-	-	1	418	7	10	11	443
XX. Distributive trades	455	4	2	(5)	1	448	7	2	(5)	1	458	4	17	20	496
XXI. Insurance, banking and finance	93	-	-	-	-	93	1	-	-	-	94	3	2	7	105
XXII. Professional and scientific services	233	1	-	-	-	232	-	-	-	-	233	4	10	7	254
XXIII. Miscellaneous services	286	3	1	-	1	281	4	1	-	1	287	7	5	12	310
XXIV. Public administration and defence	294	2	-	-	-	292	1	-	-	-	294	5	6	7	312
Industry inadequately described	8	7	-	-	-	1	-	-	-	-	1	2	1	-	11
Place of work outside the U.K.															

Table 47 is a cross-classification of household type according to the information stated on the census schedule with that stated on the post-enumeration survey form where the question appeared in practically identical terms. This table has been based on a sub-sample of the full post-enumeration survey sample because time did not permit the full sample to be re-analysed. It is immediately seen from Table 47 that the two distributions are, practically speaking, identical. As would be expected with such a relatively small sample, the sample used here does not adequately represent all the smaller types of household, but there is no reason to believe that the close agreement shown in Table 47 is not representative of the general accuracy of the assignment of households to the different household types.

Users of the *Household Composition Tables* should remember that the bias found in the ten per cent sample was liable to produce more marked effects in respect of household composition than for other items. Thus household type 0(a) (one person households) was under-stated by 8 or 9 per cent in the ten per cent sample.

Household arrangements

Cold water tap

Table 48 shows that among the 6,922 households where this item was checked, 6,305 stated on the schedule that they had sole use of a cold water tap inside the building. Of this total 5,926 (94 per cent) were confirmed by the survey; 26 (0.4 per cent) were recorded as sharing and 31 (0.5 per cent) as having no use of cold water tap. As will be seen from later sections some of this small number have probably simply misunderstood the terms used on the schedule or even made a slip when completing the schedule. The remaining 5 per cent of households cannot be checked as the survey interviewer failed to obtain clear and consistent answers to the questions on the form; no less than half this remainder stated they had exclusive use but failed to state whether it was in the building (which meant that the schedule reply could not be corroborated). A further 1.4 per cent stated only that they had use of a cold water tap. The minimum level of agreement among the checked households was 94 per cent and the maximum was 99 per cent. On a future occasion we should try and improve either the wording of the check questions, or their layout in order to be able to put closer limits on the proportion agreed. It seems reasonable to assume that there can be few households, other than those living in caravans, where the only cold water tap is outside the building. This implies that the 169 households who were recorded as having sole use on both the schedule and the post-enumeration survey form but failed to give the location of the tap on the post-enumeration survey form almost certainly can be counted as giving a correct original answer. If this assumption is made the minimum level of agreement rises to 97 per cent.

Table 48 Comparison of Census with Post-enumeration survey: Household arrangements - Cold water tap England and Wales

Use of cold water tap as stated at census	Use of cold water tap as stated at post-enumeration survey											
	Checked								Unchecked		Total	
	Successfully				Unsuccessfully				No contact	Refusal		
	Sole use	Shared	None	Total	Exclusive use location not stated	Use of tap within the building either shared or exclusive	Have tap no statement of location or whether shared	Other unclear or inconsistent answer				
Sole use	5,926	26	31	5,983	169	24	90	39	6,305	158	163	6,626
Shared	20	123	9	152	1	1	-	4	158	9	3	170
None	5	3	77	85	-	-	2	5	92	2	1	95
"Yes"	316	6	8	330	7	1	9	-	347	10	6	363
"No"	-	-	13	13	-	-	-	-	13	1	-	14
Dash	-	-	-	-	-	-	-	-	-	-	-	-
Blank	6	-	1	7	-	-	-	-	7	-	-	7
Total households	6,273	158	139	6,570	177	26	101	48	6,922	180	173	7,275

**Table 47 Comparison of Census with Post-enumeration survey:
Household composition**

[illegible]

The level of agreement was lower for those households which stated on the schedule that they were sharing a cold water tap. Among the households where the check was successful nearly four in five gave the same reply on the post-enumeration survey. Twenty households, however, said they had exclusive use and nine that they were without cold water tap; this last number is too small to allow any firm conclusions.

The numbers on the 'none' line are too small for reliable estimates to be made of the size of the groups whose replies differed. The proportion agreed is 84 per cent but this is not significantly different from the agreement on the "shared" line.

Seven in ten of the households living in caravans did not have use of a cold water tap within the building. This group accounted for a fifth of all households recorded as being entirely without a cold water tap.

It was found during the processing that considerable numbers of householders had answered these questions on the schedule by answering "Yes" or "No" rather than "Sole use", etc. as the questions instructed. Unless there was clear evidence to the contrary answers of "Yes" were assumed to mean sole use and answers of "No" were assumed to mean none. The lines for "Yes" and "No" on Table 48 indicate that these assumptions were substantially correct; of the 347 "Yes" households which were checked, the survey showed that 91 per cent had in fact sole use and all the relatively few "No" answers should have been "None". The other numbers on the "Yes" line are too small to provide firm conclusions. If the comparison is limited to those households where the check was successful the following proportions can be derived. (The "Yes" group has been combined with "Sole use", the "No" group with the "None" and the blanks omitted).

Cold water tap

	Census proportion	P.E.S. proportion	Difference	Standard error of the difference between Census and P.E.S. proportions
Sole Use	0.9619	0.9549	0.0070	0.0015
Shared	0.0232	0.0241	-0.0009	0.0012
None	0.0149	0.0210	-0.0061	0.0011
All	1.0000	1.0000		

The differences in all these figures are clearly significant at the 1 per cent level. These differences seem unlikely to be affected by the relatively large "checked unsuccessfully" group.

It should be remembered that the above comparison relates to the information as it was given on the census schedules. In the course of processing this information, various inconsistencies were discovered and removed at the stage when the raw data was edited (see page 176). The effect of the editing in information on cold water taps was to tend to reduce the proportion of households returned as sharing a cold water tap and to increase the proportion without use. The changes made were not, however, numerous enough to produce a distribution which was significantly different from that shown above for the information given originally on the census schedule.

Hot water tap

Table 49 displays several features which are similar to those mentioned in respect of Table 48. The "Yes" answers on the schedule are shown predominantly to be "Sole use" (95 per cent) by the survey and although there is more variation than in Table 48 the "No" answers are shown to be mainly "None". Among those households returning "Sole use" on the schedule 95 per cent were confirmed by the survey with negligible numbers being shifted into the "Sharing" or "None" categories. For over 3 per cent of households returned on the schedule as having "Sole use" the check was not successful, which makes it impossible to determine where the percentage agreement figure lies between 95 per cent and 99 per cent. (However, four-fifths of these households had use of a hot water tap but there was no statement of whether this use was shared or exclusive). The distribution of the schedule statements of "Shared" or "None" was similar to those for the cold water tap except that 9 per cent of the households which stated "None" on the schedule were not successfully checked by the survey. The great majority of these failures were due to a failure in the design of the survey questionnaire. The interviewer was not instructed, having confirmed that the means by which the household actually obtained hot water met the census definition, to ask whether this facility was shared or exclusive. As for the households originally claiming

Table 49 Comparison of Census with Post-enumeration survey:
Household arrangements - Hot water tap

England and Wales

Use of hot water tap as stated at census	Use of hot water tap as stated at post-enumeration survey										
	Checked								Unchecked		Total
	Successfully				Unsuccessfully			Total	No contact	Refusal	
	Sole use	Shared	None	Total	Use of hot water tap: failure to state exclusive or shared	No tap, but water from acceptable system no statement of exclusive or shared	Other unclear or inconsistent answer				
Sole use	4,795	17	40	4,852	84	54	35	5,025	131	133	5,289
Shared	20	103	6	129	-	2	2	133	5	2	140
None	69	11	994	1,074	11	81	15	1,181	27	26	1,234
"Yes"	250	4	1	255	6	2	1	264	12	6	282
"No"	16	-	163	179	2	25	1	207	4	5	216
Dash	7	-	34	41	-	4	2	47	-	-	47
Blank	25	-	32	57	-	6	2	65	1	1	67
Total households	5,182	135	1,270	6,587	103	174	58	6,922	180	173	7,275

exclusive use, it is clear that most of this 9 per cent would in fact have use of a hot water tap and should therefore be included in either the sole use or shared use. This should be borne in mind when the schedule and survey distributions for the three main groups are compared on the following page ("Yes" and "No" have been included with "Sole use" and "None" respectively and the blanks and dashes omitted):-

Hot water tap

	Census proportion	P.E.S. proportion	Difference	Standard error of the difference between Census and P.E.S. proportions
Sole Use	0.7870	0.7937	-0.0067	0.0020
Shared	0.0199	0.0208	-0.0009	0.0012
None	0.1931	0.1855	0.0076	0.0018
All	1.0000	1.0000		

The differences in the "Sole use" and "None" figures are significant at the 1 per cent level and if the schedule answers of "None", which are known to be incorrect but which cannot be allocated definitely to the other groups, were to be included and distributed in proportion to the numbers already in the other groups, the schedule excess of "None" would be even greater as would be the shortfall in the "Sole use" group.

Fixed bath

As would be expected, there was a higher level of agreement between statements on the schedule and those made on the survey for fixed bath than for the cold water tap or the hot water tap. Among the 4,772 households shown in Table 50 which stated on the schedule that they had "Sole use" of a bath, 96.5 per cent were confirmed by the survey. In 3 per cent of the cases incomplete answers on the survey form did not permit a proper comparison and in less than 1 per cent of households is there clear evidence of a mis-statement on the schedule. From a scrutiny of the forms where the household stated on the schedule that they had exclusive use of a bath but only shared use on the survey form, it appears that some households did not think of themselves as "Sharing" if they were sharing with a second household in the same building or dwelling.

Among the households originally recorded as "Sharing", 91 per cent were confirmed, which is a considerably higher proportion than for either cold water tap or hot water tap. Among the 19 households which turned out to have sole use, 5 gave reasons for the errors. Among these five, three thought "Shared" meant "Shared within the household".

Table 50 Comparison of Census with Post-enumeration survey:
Household arrangements - Fixed bath

England and Wales

Use of fixed bath as stated at census	Use of fixed bath as stated at post-enumeration survey									
	Checked							Unchecked		Total
	Successfully				Unsuccessfully		Total	No contact	Refusal	
	Sole use	Shared	None	Total	Have use of bath,not stated whether exclusive or shared	Other unclear or inconsistent answer				
Sole use	4,603	22	18	4,643	92	37	4,772	108	123	5,003
Shared	19	286	6	311	1	2	314	18	5	337
None	5	4	1,178	1,187	1	9	1,197	30	27	1,254
"Yes"	304	6	5	315	8	1	324	19	11	354
"No"	4	-	205	209	1	-	210	4	6	220
Dash	4	-	43	47	-	-	47	-	-	47
Blank	19	-	39	58	-	-	58	1	1	60
Total households	4,958	318	1,494	6,770	103	49	6,922	180	173	7,275

Of the households which stated they had no use of a fixed bath 98 per cent were confirmed and 98 per cent of those who replied "No" turned out to have no use, and 94 per cent of those who replied "Yes" had exclusive use.

A comparison of the proportional distributions from the post-enumeration survey sample, from which the original blanks and dashes have been excluded, is as follows:-

Fixed bath

	Census proportion	P.E.S. proportion	Difference	Standard error of the difference between Census and P.E.S. proportions
Sole Use	0.7439	0.7404	0.0035	0.0013
Shared	0.0467	0.0477	-0.0010	0.0011
None	0.2095	0.2119	-0.0024	0.0010
All	1.0000	1.0000		

The differences in the "Sole use" and "None" figures are significant at the 5 per cent level.

Water closet:

Whereas the other household amenities had to be within the building in order to qualify, the W.C. could be either within the building or attached to it. The W.C. which was outside the building and was not attached to it should not therefore have been counted by the household. As will be seen from Table 51 there were occasions when this rule was not always followed correctly.

Among the 5,650 households which were returned as having "Sole use" and which were checked, 90 per cent were confirmed as having "Sole use". Three per cent were returned on the post-enumeration survey as having no W.C., nearly all these being households with exclusive use of a W.C. which was not attached to the building. There was a group where the check was not successful which here accounted for 6 per cent of the total checked; over half of these had exclusive use of a W.C. but it was not determined where this W.C. was located while, for another group, it was discovered that the W.C. was in the building or attached to it but not whether they had shared or exclusive use. The proportion confirmed as having sole use was therefore between 90 and 96 per cent.

There were 444 checked households which claimed shared use of a W.C. Among these 79 per cent were confirmed by the survey. A total of about 12 per cent were returned on the survey as having no W.C. (Again most of these households had a

Table 51 Comparison of Census with Post-enumeration survey:
Household arrangements - Water closet

England and Wales

Use of water closet as stated at census	Use of water closet as stated at post-enumeration survey											
	Checked									Unchecked		Total
	Successfully					Unsuccessfully			Total	No contact	Refusal	
	Sole use	Shared	None		Total	Available in building or attached no statement of sole/shared	Available sole use or no location stated	other unclear or inconsistent answer				
			Available but not in or attached to the building	Not available								
Sole use	5,067	36	185	10	5,298	66	194	92	5,650	132	148	5,930
Shared	29	349	47	5	430	6	2	6	444	22	8	474
None	19	6	91	171	287	1	4	8	300	9	5	314
"Yes"	353	8	21	1	383	9	11	5	408	15	10	433
"No"	2	-	7	36	45	-	2	-	47	1	2	50
Dash	8	-	-	-	8	2	7	-	17	-	-	17
Blank	35	4	7	9	55	-	1	-	56	1	-	57
Total households	5,513	403	358	232	6,506	84	221	111	6,922	180	173	7,275

W.C. that was not attached to the building). The number of households claiming shared use where the check was not successful are too few to be a basis of sound conclusion.

Among households which stated they had no use of a W.C. on the schedule, 87 per cent were confirmed by the survey (30 per cent having a W.C. which was not attached to the building and 57 per cent having no W.C. at all). Eight per cent were shown by the survey to have exclusive use of a W.C. and two per cent to have shared use.

As for the other household arrangements the "Yes" and "No" answers on the schedule belonged predominantly to the "Sole use" and "None" groups respectively. If the households where the check was not successful and the dashes and blanks are left out of account, the following comparison between the schedule statements and replies obtained by the survey interviewer can be derived. (The "Yes" group have been combined with the "Sole use" and the "No" group with the "None".)

Water closet

	Census proportion	P.E.S. proportion	Difference	Standard error of the difference between Census and P.E.S. proportions
Sole Use	0.8817	0.8490	0.0327	0.0027
Shared	0.0667	0.0619	0.0048	0.0018
None	0.0515	0.0891	-0.0376	0.0026
All	1.0000	1.0000		

The schedule over-statement of "Sole use" and under-statement of "None" are certainly significant and the over-statement of shared is significant at the 5 per cent level. Of the 574 households shown by the survey to have no use of W.C., 351 were households with use of a W.C. which was not in, or attached to, the building of which nearly three in five were originally enumerated as having "Sole use". The remaining 223 did not have the use of any W.C. - these two groups represent 5.4 per cent and 3.4 per cent of the total number of households where the check was successful.

There is a further ambiguity of uncertain size in the figures for availability of water closets. The census question was drafted with the intention that "attached to the building" would include a water closet that was outside the building but had a common wall with the building or even include a water closet which formed part of out-buildings which were structurally attached to the main building even though there was no common wall between the W.C. itself and the main building.

This assumption was not stated on the census schedule nor on the post-enumeration questionnaire although it was mentioned in the instructions to the survey interviewers. It is, however, a legitimate meaning of "attached" to include any water closet which is in the yard or garden of a particular house as opposed to water closets built in a block which serves a whole terrace of houses.

The effect of this is not known. A quarter of the households returned in the survey as having "Sole use" stated that the water closet was attached to the building and this represents the absolute maximum possible additional error. The effect would be to greatly increase the number of households which should have been returned as having no use of a water closet. All the figures shown have been worked on the assumption that there was no effect from this ambiguity and are therefore, in effect, a lower limit.

However, it is necessary to remember here the point made earlier of the impact of the edit procedures on the data. The following figures indicate that the editing procedure improved the quality of the figures.

	Proportions as originally enumerated	Distribution as published (i.e. after editing)	According to post-enumeration survey
Sole Use	882	873	849
Shared	67	58	62
None	51	69	89

It may be noted in passing that this restriction of a water closet to one in, or attached to, the building represented a change of practice between 1961 and 1951 where there was no restriction on the location of the water closet. This accounts for the otherwise surprising increase in the number of households with no use of a water closet. In a few areas, however, this rise can be attributed to the increase in the number of caravans in the area.

Tenure

The degree to which the schedule statements were confirmed by the post-enumeration survey varied considerably according to the class of tenure under consideration, there being a higher measure of confirmation with the owner-occupied, renting from council and renting unfurnished than for the other groups.

Among the 3,095 households recorded as owner-occupiers where the post-enumeration survey check was successful, 2,864 (93 per cent) were confirmed as correct by the post-enumeration survey. A further 6 per cent were checked but the post-enumeration survey was unable to determine whether the original answers were correct. This group of households had, as its largest element, households which failed to say whether the accommodation was held on a lease (as they had, in fact, stated they owned the accommodation, these probably represent owner-occupiers). In only one per cent of cases is there evidence of disagreement. Of the 30 cases involved 15 were held on short leases of under 21 years (and hence the erroneous schedule answer is understandable), a further 10 were owned by relatives of the head of the household (including divorced husbands). Of the remainder, two claimed to have misunderstood the question and in one case the owner had completed the schedule for the householder. For the remaining households no information was obtained on why the discrepancy occurred.

There were 379 households in the sample which stated on the schedule that they held their accommodation by virtue of their employment; 274 (72 per cent) of these were confirmed. Eleven should have returned "by renting with farm or business premises" and some confusion between these groups was, perhaps, to be expected. The largest group of errors is again composed of those households which should have been returned as "renting unfurnished". Among 22 of the 34 households in this group in Table 52 the tenancy was by virtue of employment but the accommodation did not have to be vacated when that employment ended and hence did not come into this census classification. This point was made clear in the explanatory notes to the schedule. One further household was noted "farm worker", in another the occupier had formerly worked for the owner of the house, and in two households the premises were occupied rent free from the Aged Miners Homes Association. The remaining 11 cases provided no comment. There were 56 households where the post-enumeration survey was unable to determine the correct answer.

Among the 109 households in the sample who stated they rented their accommodation with their business 79 were confirmed by the post-enumeration survey. The largest discrepancy group was the 15 households who were recorded as renting unfurnished by the post-enumeration survey. It is not clear why these errors occurred.

Table 52 Comparison of Census with Post-enumeration survey:
Tenure

England and Wales

Tenure as stated at census	Tenure as stated at post-enumeration survey														
	Checked												Unchecked		Total
	Successfully							Unsuccessfully				Total	No contact	Refusal	
	Owner occupied	Held by virtue of employment	Rented				Total	No statement of whether held on lease	Held on lease- length of lease not stated	Rented - but no statement of which group	Other				
			With farm or business premises	From Council, etc.	Other										
Owner occupied	2,864	1	-	-	1	28	2,894	143	28	9	21	3,095	76	91	3,262
Held by virtue of employment	2	274	11	2	-	34	323	-	-	3	56	382	11	2	395
Rented with farm or business premises	2	5	79	1	1	15	103	1	-	-	2	106	2	4	112
Rented from council	1	3	1	1,394	-	49	1,448	-	-	3	12	1,463	21	30	1,514
Rented furnished	2	2	-	-	155	47	206	1	-	-	18	225	19	4	248
Rented unfurnished	10	15	12	6	11	1,397	1,451	1	-	172	29	1,653	51	40	1,744
Total households	2,881	300	103	1,403	168	1,570	6,425	146	28	187	138	6,924	180	171	7,275

The level of agreement shown by the households originally returned as renting from the council was rather higher; 95 per cent of these cases were confirmed by the post-enumeration survey. The only group of any size were the 49 households which were recorded on the post-enumeration survey as renting unfurnished from a private landlord. It is possible that the wording of the post-enumeration survey form may have inflated this group as it referred to "your local Council" which may have confused some people who were tenants of County Council rather than the County District Council or who were tenants of a council other than that for the area in which they were living (overspill housing).

The renting furnished category had a relatively low level of agreement. Out of a total of 225 such households which were checked, only 155 (69 per cent) were confirmed by the post-enumeration survey. The main discrepancy group were those who were recorded on the post-enumeration survey as renting unfurnished, and these amounted to 47 in number. The size of this group is likely to be accounted for mainly by the lay-out of the census schedule. Some householders failed to appreciate that the question was in fact divided into two parts i.e. that they were being asked to state whether they rented furnished or whether they rented unfurnished - they simply answered the question "By renting from another landlord" by writing "Yes" on the first available line which then appeared as an answer "Yes" to the renting furnished category.

The post-enumeration survey confirmed a relatively high proportion (85 per cent) of the replies of those households which stated on the schedule that they were renting unfurnished from a private person or company. The relatively few cases of disagreement were spread fairly evenly over the other groups. For several of the groups no comments were made by the interviewers concerned and from those where comments are given, no consistent pattern emerges.

If the comparison is limited to those cases where definite data was obtained on both the schedule and the post-enumeration survey form the following proportional distributions can be derived:-

	Census proportion	P.E.S. proportion	Difference	Standard error of the difference between Census and P.E.S. proportions
Owner occupied	0.4504	0.4484	0.0020	0.0011
Held by virtue of employment	0.0503	0.0467	0.0036	0.0014
Rented with farm or business	0.0160	0.0160	0.0000	0.0011
Rented from Council	0.2254	0.2184	0.0070	0.0012
Rented furnished privately	0.0321	0.0261	0.0060	0.0012
Rented unfurnished privately	0.2258	0.2444	-0.0186	0.0023
All	1.0000	1.0000		

The "rented unfurnished privately" were clearly significantly under-stated on the census schedules at the expense of all other groups and the net over-statement is significant for the "held by virtue of employment", "rented from the Council" and "rented furnished privately".

Rooms

Table 53 gives the results of the post-enumeration survey coverage check with respect to rooms. The net result is an over-statement of just over one-half per cent. The gross errors were an under-statement of just under 1.0 per cent and an over-statement of 1.5 per cent. The sample of rooms is a relatively heavily clustered sample of 20 households on average each occupying 4.6 rooms. This produces an average cluster size of about 92. This means that whereas with a random sample of rooms the proportional net over-statement of 59 per 10,000 would have a standard error of 3 per 10,000 attached to it, the clustering effect, if given its maximum weight, would multiply this standard error by a factor of just over 9. However, a more reasonable value for the clustering factor would produce limits to the net over-statement of rooms of between 1.0 per cent and 0.3 per cent.

It is clear that a substantial part of the errors in the number of rooms arose from kitchens. A kitchen should have been counted as a room only if it was used for eating. This limitation was not always observed and Table 53 shows that a large part of the over-statement of rooms was attributable to kitchens being counted as rooms when they were not used for eating and, conversely, much of the under-statement was due to kitchens where meals were eaten not being included in the count of rooms. If the stated kitchen element is removed the net over-statement of rooms reduces from 59 per 10,000 to about 20 per 10,000. If all the "not stated" were in fact kitchens, the over-statement would reduce to about 10 per 10,000.

An examination of the figures by type of area indicates that the gross under-statement shows little variation according to area and that there is no significant urban/rural gradient. On the other hand, the gross over-statement varies from a mean of 0.0149 with the relatively high figure of 0.0174 for county boroughs and the relatively low figure of 0.0125 for rural districts. This difference between county boroughs and rural districts is statistically significant.

The figures for different types of plot indicate that the rates for over-statement are remarkably uniform but those for under-statement show rather more variation.

The effect on household occupation by number of rooms is that the number of households with 5 or fewer rooms have been slightly under-stated (the largest being $2\frac{1}{2}$ per cent for 5-room households) while the number of households occupying larger numbers of rooms has been over-stated. This pattern is generally reproduced for the different types of local authority.

Table 53 Post-enumeration survey:
Coverage check of households by rooms by type of area

Type of plot and area		Households containing the following number of rooms										Total households	Total rooms	Increase due to			Decrease due to			Difference	
														Kitchen	Other	Not stated	Kitchen	Other	Not stated		
		1	2	3	4	5	6	7	8	9	10 or more										
County Boroughs	As selected (estimated)	325	791	1,533	2,837	3,687	1,655	402	190	41	54	11,515	51,527	}	178	176	124	490	236	219	-467
	Diminished (estimated)	331	809	1,509	2,821	3,859	1,471	392	156	46	41	11,515	51,060								
	Extended (estimated)	133	200	577	1,235	1,276	370	121	40	13	12	3,977	17,230								
	Extended (estimated)	131	209	567	1,225	1,316	345	126	34	14	10	3,977	17,201								
	Extended (actual)	85	260	506	971	927	418	86	42	22	46	3,363	14,751								
Metropolitan Boroughs	Total (estimated)	543	1,251	2,616	5,043	5,890	2,443	609	272	76	112	18,855	83,508	}	336	321	158	754	365	327	-631
	Diminished (actual)	543	1,279	2,625	5,108	6,085	2,213	595	233	80	94	18,855	82,877								
	Extended (estimated)	151	299	753	1,898	2,953	1,151	317	86	40	23	7,671	35,803								
	Diminished (actual)	152	305	756	1,954	2,963	1,081	324	80	35	21	7,671	35,617								
	Extended (estimated)	46	77	243	540	811	303	83	30	7	21	2,161	10,076								
Urban Districts	Total (estimated)	223	438	1,149	3,030	4,522	1,798	521	161	68	73	11,983	56,437	}	181	135	133	447	169	163	-330
	Diminished (actual)	228	440	1,179	3,081	4,577	1,671	519	156	66	66	11,983	56,107								
	Extended (estimated)	55	138	387	1,365	1,913	578	168	62	24	34	4,726*	22,394								
	Diminished (estimated)	57	135	391	1,410	1,862	586	170	59	23	33	4,726	22,341								
	Extended (actual)	9	52	205	614	673	281	78	26	7	7	1,952	9,165								
Rural Districts	Total (estimated)	78	246	762	2,802	3,554	1,253	342	138	52	64	9,293*	44,210	}	195	96	107	323	160	112	-197
	Diminished (actual)	79	239	781	2,821	3,657	1,142	331	130	48	65	9,293	44,008								
	Extended (estimated)	26	59	297	968	1,434	404	180	86	37	62	3,553	17,547								
	Diminished (estimated)	26	63	303	960	1,465	394	159	86	36	61	3,553	17,471								
	Extended (actual)	4	22	88	316	494	165	34	19	10	11	1,163	5,648								
All Areas	Total (estimated)	56	164	632	2,207	3,007	1,008	404	212	98	159	7,947	39,480	}	150	92	100	184	182	124	-148
	Diminished (actual)	58	163	642	2,200	3,081	970	376	203	97	157	7,947	39,332								
	Extended (estimated)	26	59	297	968	1,434	404	180	86	37	62	3,553	17,547								
	Diminished (estimated)	26	63	303	960	1,465	394	159	86	36	61	3,553	17,471								
	Extended (actual)	4	22	88	316	494	165	34	19	10	11	1,163	5,648								
All Areas	Total (estimated)	557	1,287	2,970	7,068	9,987	3,788	1,067	424	142	173	27,465*	127,271	}	456	353	266	937	501	414	-777
	Diminished (actual)	566	1,312	2,959	7,245	10,129	3,532	1,045	381	140	156	27,465	126,489								
	Extended (estimated)	193	358	1,081	2,720	3,211	1,165	321	114	38	52	9,253	42,206								
	Diminished (actual)	190	357	1,114	2,660	3,395	1,037	305	109	37	49	9,253	42,025								
	Extended (estimated)	150	454	1,108	3,294	3,775	1,549	488	245	114	183	11,360	54,158								
All Areas	Total (estimated)	900	2,099	5,159	13,082	16,973	6,502	1,876	783	294	408	48,078*	223,635	}	862	644	498	1,708	876	726	-1,306
	Diminished (actual)	908	2,121	5,227	13,210	17,400	5,996	1,821	722	291	382	48,078	222,324								
	Extended (estimated)																				
	Diminished (actual)																				
	Extended (estimated)																				

* Includes 2 households for which no rooms were given - amended to 1 room and 4 rooms

CHAPTER 4

Census Processing and Quality of Data

Introduction

Published census data can be regarded as being a combination of the original data as collected at the enumeration plus any changes made in the course of processing. Chapters 1 to 3 have provided some account of the quality of the original data and the aim of this chapter is to give some account of the ways in which processing has affected this information.

Processing can produce both good and bad effects. The bad effects stem from the introduction of additional errors in the course of processing and it is with this problem that the early sections of this chapter deal. The good effects follow from the elimination of errors and inconsistencies which were present in the original data and the sections dealing with Editing and Schedule Revision are mainly concerned with this. The editing process also removed a proportion of the errors which may have been introduced at earlier stages of processing.

Punching

Errors are made in the punching process. An example of the type of error which can occur would be the transposition of the digits of a numerical code, such as the punching of 123 when 132 was the intended punching. Similar transpositions can occur between adjoining keys on a key punch and a further example of error is the shifting of a sequence of correct punchings to the left or right due to starting in the wrong column.

The effects of errors in punching on the quality of the data are difficult to assess. This is because a low error rate which applied evenly to all digits and combinations could produce very uneven effects. This arises because large errors can be caused in small groups through the incorrect addition of a number of people, or households, from a large group where their loss would hardly be noticed. Thus in the transposition example cited above, if group 123 contained 100 people and group 132 10,000, then if one in every thousand of the true 132 group were punched as 123, then group 132 would be deficient by 1 per 1,000 while group 123 would be in excess by 10 per cent. The possibility of this type of error is one justification for the examination of the extreme values of a classification at an editing or similar stage, because such extreme values can so easily be distorted in the way described.

Detailed figures are not available on the quality of the punching operation. However, some indication may be obtained from the fact that for cards punched from the ninety per cent schedules a proficiency allowance was paid and ten per cent sample checking introduced when a puncher achieved an error rate of less than 3 per cent over four consecutive weeks while maintaining a speed based on 500 population per hour. All punching of cards for households enumerated on sample schedules, cards for non-private households and cards for the data in the Enumeration Record Book was verified 100 per cent. Examination of the work records of proficient punchers suggested that work not checked from such punchers was likely to have an error rate of about 1.5 per cent. If it is assumed that punching work which was checked was virtually free from error, the general quality of punching was such that the overall proportion of punched cards relating to the ninety per cent data going forward to the computer containing an error would be just over one per cent. A proportion of these errors would be discovered at the later editing stages; this would certainly be true of those punching errors which produced either wholly invalid codes or codes which failed the consistency checks applied at the editing stage.

Coding

The operation of coding is essentially one of summarising the verbal information given on the census schedule into a short numerical code which can be recognised by the computer. It is inevitable that some detail is lost at this stage but other faults can be introduced. A coder may misunderstand the information given and for this reason enter the wrong code. On the other hand the coder may fully understand the information given but may use the coding procedure incorrectly and hence again arrive at the wrong code. Unlike punching, the error rate in coding cannot be eliminated by full checking as the operations of coding and checking cannot be regarded as independent.

Full checking, whilst monitoring the quality of the data does not substantially improve the overall accuracy of the results. It was therefore decided to try to control the accuracy of the coding processes by a system of quality control. The basic aim of a quality control system is to monitor the level of accuracy for the smallest possible amount of checking. Such a system was used in coding birthplace and nationality, usual residence, economic activity (including occupation and industry), workplace, migration and household composition.

The basic system was to divide the work into lots of predetermined size and to check each lot fully until the error rate fell below a specified level (say x per cent). After the error rate had fallen to this level, subsequent lots were checked on a sample basis as long as the error rate in this sample was lower than a predetermined level (say y per cent, which was higher than x per cent and hence gave coders the "benefit of the doubt" compared with the basic permissible error rate of x per cent). When the error rate in the sampled lots rose above y per cent full checking was introduced again until the observed error rate fell below x per cent once more.

Thus, for example, in coding economic activity the work was divided into lots with an average size of 5,800 population. These lots were checked fully until the error rate fell below 1 per cent (i.e. x per cent). Thereafter, "sub-lots" of 650 population on average were checked out of each lot of 5,800. The allowable error rate (y per cent) was a little over 1 per cent, thus for 650 the number of errors allowed was 9 and varied according to the actual size of the "sub-lot".

The effect of this method was that the overall proportion of checking was greatly reduced.

Schedule revision

Schedule revision was the first processing stage where some improvement of the original census data could be effected. As indicated in the Administrative Report all the census data which was processed by the computer had to be converted into a numeral form. For the more complex items such as birthplace and nationality, economic activity and the various items of area information, special coding sections performed this operation. For the simpler items such as age, sex, marital condition and some of the housing information, the information was either in a numerical form already, or contained a few simple groups and these items were punched direct from the schedules and other basic documents. For this system to operate efficiently it was necessary to examine the schedules and enumeration record books to be sure that these simple items had been completed and that the information was present in a form which the puncher could use immediately. This operation was performed by the Schedule Revision section. In the course of this work, the basic data was occasionally changed and the following paragraphs indicate the main situations in which such revision took place and the original census data modified.

It should be noted that basically it was not the function of the schedule revision section to correct faults in general. Such correction was postponed to the editing stage.

Assumed information

Where certain items of information were missing, it was decided that the missing information should be assumed with reference to the other information on the schedule or in the enumerator's record book.

For example, if age was missing from a schedule, the reviser was told to assume it using what supplementary information was available. Thus a husband was assumed to be three years older than his wife and a wife three years younger than her husband. A person enumerated with his parents was assumed to have been born two years after the date of their marriage. On the sample schedules the information on duration of residence would sometimes provide a lead on the age of a child. When the schedule revisor failed to assume an age this became apparent at the editing stage and it was necessary to assume ages.

The total numbers of age assumptions at the schedule revision stage were:-

Assumed ages	Males	Females
0- 4	721	694
5- 9	615	583
10-14	670	646
15-19	860	793
20-24	1,678	1,758
25-29	2,573	2,420
30-34	2,323	2,570
35-39	2,138	2,893
40-44	1,995	3,279
45-49	1,840	3,182
50-54	1,620	3,063
55-59	999	2,291
60-64	920	2,299
65-69	583	1,796
70-74	453	1,625
75-79	259	896
80-84	129	570
85 or more	43	213
Total	20,419	31,571

A further 11,189 assumptions were made at the editing stage.

In a similar way assumptions were made where the marital condition was not stated and the 167 thousand people whose marital condition was assumed were classified as follows:-

Assumed marital condition	Males	Females
Single	17,116	8,577
Married	65,318	68,677
Widowed	2,571	5,434
Divorced	36	180
Total	85,041	82,868

A further 22,028 marital condition assumptions were made at edit.

A total of 3,523 women stated that they had not had a child in the year before census despite the presence on the schedule of a child of theirs born during the year concerned. These statements were all altered to a reply of "Yes" to the child last year question.

Before the schedule revision stage was reached, the section dealing with the coding of the enumerators' record books had adjusted the number of rooms for households returned as sharing one or more rooms. To simplify the processing, these numbers of rooms were adjusted so that each household occupied a whole number of rooms and the total number of rooms occupied by all households agreed with the total for the dwelling. There were a total of 19,887 households returned with fractional numbers of rooms and these were treated as follows:-

Number of rooms reduced to 1	3,887
Number of rooms otherwise reduced	6,657
Number of rooms increased to 2	1,523
Number of rooms otherwise increased	7,820

In addition, enumerators occasionally forgot the condition that a household must occupy at least one room and there were a few which were enumerated as sharing their only room. Such households were combined to form a single household.

The only permissible entries to the household amenities arrangements questions were "Sole use", "Shared" or "None". In practice the answers "Yes" and "No" also came to be accepted, the former being taken as equivalent to "Sole use" and the latter to "None". In some schedules these questions had not been answered and it was then necessary to assume the answers. It was assumed that if a dwelling was one of a number in a street or road, the provision of household

arrangements would conform to that of the majority of the other dwellings. It was also assumed that a dwelling in a residential area would have sole use of all amenities. In contrast, a dwelling in a remote rural area was assumed to have no use of any of the arrangements. The number of assumptions made about household arrangements is shown in the following table. It is not possible to classify these according to the use which was assumed. This table also shows the assumptions made whether a household in a shared dwelling had exclusive use of the kitchen, or not.

Exclusive use, Shared use or None assumed for household arrangements	
Cold water	25,846
Hot water	53,882
Bath	52,904
Water closet	76,770
Kitchen assumed exclusive	10,869
Not exclusive	3,133

The tenure question (Panel L) was designed with five tenures specified at (a) to (e) and a sixth space (f) for those which did not fit easily into one of the stated categories. Where possible the answers given in line (f) were allocated to one of the other groups. There were 27,725 households where the information given at (f) was inadequate to permit allocation to another group and these were assumed to be rented unfurnished; 21,646 households who failed to answer the tenure questions at all were also assumed to be renting their accommodation unfurnished.

Other modifications

The following paragraphs mention other changes which were made at the schedule revision stage which are likely to have affected the quality of the data. It is not possible to give an assessment of the numbers involved.

Whether sharing stove and sink in shared dwellings

This panel on the schedule gave considerable trouble at the schedule revision stage. In addition to the failure to complete this section at all, which has been mentioned, there was a certain amount of misunderstanding by some enumerators either because they did not fully understand what constituted a shared dwelling or because they were reluctant to question the householder fully whether or not the dwelling was shared with another household. This resulted in there being both an answer to the question on the schedule that the household had, or had not, exclusive use of a stove and sink (which should only have been answered by households sharing a dwelling) and an indication in the enumerator's record book that the household in fact occupied the whole dwelling. It is difficult to give any statistical assessment of the effect that this had on the quality of the data because decisions had to be based on a subjective assessment of the capability of a particular enumerator. It is noted in the section dealing with editing that a considerable number of queries arose at that stage because of the inconsistency noted above.

Tenure

There was some uncertainty in the group (c) "By virtue of employment" particularly about property belonging to the National Coal Board. Some schedules were completed to give the tenure as being "By virtue of employment", while others in the same street stated they were "By renting it from another landlord." Since the National Coal Board is likely to rent property to anyone, if it is not required by their own employees, the true position may be confused.

A number of people entered "Yes" against "By virtue of employment" who were retired, or who were widowed. These were generally accepted as correct.

Relationship to the head of household

A person described as being a "Bed-sitter" or "Tenant" was treated as part of the private household or, provided the circumstances warranted it, transferred to a separate schedule. The terms "Lodger" and "Sub-tenant" also appeared; if these terms were, in fact, correct the people concerned should have formed separate households. It was necessary to make a subjective judgment in the light of the other information appearing on the schedule. It also appears that there was a certain amount of confusion between visitors and boarders.

Marital condition

A number of schedules contained statements of marital condition for persons under 16. At this stage such answers were ignored and at a later stage they were all amended to "Single", as was "Marriage annulled". A number of widows regarded themselves as still married but the true position could usually be assessed by examination of the information given in Columns G and H. The same information coped with the few people who described themselves as "Widowed and Divorced".

Fertility

A number of schedules were found where the answers to both parts of the question had been completely omitted. A number had been completed simply with a dash or a stroke. Examination of the results of the post-enumeration survey suggested that the answers of "None" to the number of children and "No" to whether the child was born in the year before census would usually be correct and this procedure was adopted throughout the schedule revision procedure.

Dates of marriage for all ever-married women

A set of rules was devised for the treatment of answers in columns G and H which appeared inconsistent. Details of these are given in the General Explanatory Notes to the *Fertility Tables*. A considerable number of widows and divorced women had entered details of their first and only marriage in this column instead of in column H. Where the situation was clear these dates were transferred to the relevant parts of column H.

Some married women who were living apart from their husband had inserted in H(i) the date of marriage and in H(ii) the date of separation. When this was noted the information was corrected. Some of the dates in columns G and H were inconsistent or improbable and these were converted to "Not Stated". In some of the Institution schedules, particularly those for mental homes and old people's homes, the frequency of no response to these questions was relatively high. There were a number of schedules where information had been inserted for men. Unless it was clearly indicated by guiding lines or arrows, these details were deleted and were not presumed to relate to the man's wife.

Language spoken

There were a few inconsistencies in the replies to this question. For example, "Welsh" occasionally appeared in schedules completed entirely in English.

Non-private households

One of the problems encountered in the course of the schedule revision operation was the classification of the different types of non-private household. The basic tool here was the list of non-private households coded by each census officer to show the type of non-private household in accordance with a set of definitions supplied by the Census Office. These definitions are given on pp. viii-x of the *Age, Marital Condition and General Tables*. This general list was supplemented by national lists for particular types of institution. One example of such a list was that provided by the Ministry of Health for National Health Service Hospitals which proved invaluable in determining the purpose for which a hospital was mainly used. Another useful list was the List of Voluntary Homes registered under the Children's Act, 1948 which was used to clarify some doubts on the correct allocation of households to the group of children's homes and hostels. Despite these aids a considerable number of difficulties arose in allocating institutions to their correct group. One problem arose from the multi-occupation of premises. In some hospitals it became clear that different parts of the hospital were being used for different purposes. This situation was dealt with by the separation of the different groups so that, in effect, they were treated as separate institutions although they had all been enumerated in the same building.

Other difficulties tended to arise from a disagreement between the list of institutions and the description on the schedule for the institution. For some institutions the descriptions were not specific enough to enable the institution to be classified without doubt. One example was a statement that an institution was providing accommodation under Part III of the National Assistance Act, 1948. Such accommodation can be provided in old people's homes, homes for the disabled, homes for the old and disabled and in miscellaneous communal establishments. Where possible, groups of people occupying such accommodation who were not old or disabled, were treated as a separate institution which was allocated to the miscellaneous communal establishment group.

Another description causing difficulty was "nursing home". This could refer to an old people's home, a convalescent home, or a maternity home, being allocated differently in each case. Occasional mis-classification may have occurred. Another group where mis-classification may have occurred was that of homes for old people only, homes for disabled people only and homes for both the old and the disabled. There was sometimes no information available which made it clear whether the inmates of a particular institution were disabled or not.

It was not always possible to be sure of the distinction between children's homes or hostels on the one hand and educational establishments on the other. A number of institutions listed and enumerated as children's homes or hostels listed the children on the schedule as "pupils" and for these places some doubt must exist as to the correct classification. It was also not always easy to decide whether an institution was an educational establishment or a miscellaneous communal establishment. Thus, school hostels sometimes appeared on the census officer's list as a miscellaneous communal establishment whereas they should have been allocated to educational establishments; when the mistake was spotted these were altered. Convents sometimes caused difficulty. When the nuns were described as teachers the convent was treated as an educational establishment; otherwise it would be allocated to the miscellaneous communal establishment group. The term "training centre" applied to a centre for a single employer would have led to its inclusion in the miscellaneous communal establishment group whereas otherwise this term applied to an educational establishment. The correct position was not always clear from the census schedule.

Another process carried out at the schedule revision stage was the re-classification of certain households from the private to a non-private category. This was carried out either where the household contained five or more persons described as boarders, foster children, lodgers, patients, employees, etc., or where the enumerator had made a note in the remarks column of the enumerator's record book that the household was in fact an institution, or a boarding-house, rather than a private household. There were nearly 13 thousand such changes and the following figures indicate that by far the largest group were re-classified into hotels or boarding-houses.

Category	Number re-classified from private to non-private
Hotels and boarding-houses	11,637
Hospitals	42
Homes for old persons only	17
Homes for disabled persons only	3
Children's homes	263
Educational establishments	70
Places of detention	34
Defence establishments	4
Civilian ships, boats and barges	51
Miscellaneous communal establishments	470
Miscellaneous - campers, vagrants, etc.	277
Total	12,868

Since the number of hotels and boarding-houses counted in 1961 amounted to some 38 thousand, it is clear that nearly a third were not originally enumerated as such but were re-classified from private households. About 10 per cent of the children's homes and the miscellaneous communal establishments were originally enumerated as private households.

Editing Rules and their Statistical Impact

Introduction

One of the census processes which affected the quality of census data was the editing procedure. The aims, from the statistical point of view, of the editing procedure were to eliminate radical inconsistencies from the published tables and also to check that improbable combinations were not unduly inflated by faulty data or faulty coding or punching. The need for editing any particular was detected by the computer which compared the basic data with predetermined criteria with which it had been supplied. These criteria were designed to indicate whether there was an apparent "fault" in the data, such as someone with a date of marriage later than April 1961, or whether there was an apparent "doubt", which indicated that the occurrence was unlikely though not impossible. An example of a "doubt" was someone aged under 21 who was stated to be re-married, widowed or divorced. A summary of the more important edits used on the one hundred per cent information is given in Appendix 4A to this chapter.

One hundred per cent edits

About 1.3 million edit messages were received from the computer about the one hundred per cent information. Of this total, 680 thousand were raised about the household data. Among the messages about the household data, the highest number (274 thousand) was F013, a household occupying the whole of a building but sharing the bath and/or the W.C. The second most frequent household message was D012, a household not sharing a dwelling but sharing the water supply. There were 170 thousand messages in this category.

An analysis was carried out on a sample of one message in 150, in order to see, at least for the more frequent edit messages, whether the apparent fault or doubt arose from the original data itself or was due to a mistake at an earlier stage of processing.

Some of the more important results derived from this sample are given in the following paragraphs.

F013 Household occupies whole building but shares bath and/or water closet

273,773 messages were received for this fault, nearly 2 per cent of all households. This was the highest number for any single message. The main cause of these errors was faulty original data which, as indicated by the 1 in 150 sample, accounted for 93 per cent of the messages examined. With so many errors assigned to the original data, it was again thought necessary to carry out a further special investigation by means of a further sub-sample.

This further sub-sample indicated that in 70 per cent of the messages the answer to the question of the use of a bath and/or water closet was changed from "Shared" to "None". It was felt that practically all of these were necessary because the heads of households misinterpreted the question and stated that they shared a toilet which was in fact outside the building.

In those messages where the amenities were changed to "Sole use", it was assumed that this was a situation where a family with relatives or boarders stated that they had shared use, meaning that they shared with other members of the same household.

D012 Household occupies whole dwelling but shares water supply

A total of 170,408 messages were received for this doubt, amounting to over 1 per cent of all households, which was the second highest total for any individual message.

Although this is described as a doubt, where the dwelling referred to was the only dwelling in the building it in fact represented a fault. Where it was not a single dwelling in a building, information given on the schedule was accepted unless there was strong evidence to suggest otherwise. The sub-sample indicated that this situation occurred in 31 per cent of all messages.

In view, however, of the large number of messages where the apparent error appeared to stem from the original data, a further investigation was carried out to ascertain the action taken to correct the information supplied. This was done by means of a special sub-sample taken from every third enumeration district in the main sample. The action most favoured was to change the dwelling classification to sharing, but on further examination it was found that this was justified in only about half of all cases. On the whole, the action taken improved the information given on the schedule in just over 60 per cent of the total messages.

D011 and D039 Household shares dwelling and water supply but has exclusive kitchen

In 74 per cent of these doubts the data supplied by the heads of household were accepted. In most of the remaining messages the inconsistencies arose through faults at earlier stages of processing.

F056 Aged under 16 at marriage

56,368 messages were received for this fault, about 1 per thousand of the total population. This fault accounted for the second highest number of edit messages for the personal information. D048 - age at marriage 12-15, year of marriage before 1929 - was not created until some time after processing had started. If it had been introduced at the start there would have been a slight reduction in the number of F056 messages.

The sub-sample showed that nearly two-thirds of the faults were due to errors in the original data. These were mainly due to indistinct or impossible dates of marriage having been entered on the schedule. These were amended to not stated.

D061 Age over 94

The total number of messages for this doubt was 21,476. Over half the messages in the sample arose because of a failure to assume ages where the age had been omitted on the original schedule. When this happened, digits outside the acceptable range i.e. 00 to 94 were punched instead of an age. Nearly all the remainder were found to be correct data.

D064, 66, 67 Number of children

While there was no obligation on the heads of household to give information about children born illegitimate (including those subsequently legitimated) it was clear that many of them did so. When that happened the data was accepted as shown and these messages were provided mainly to ensure that large numbers of children had not been created by processing errors. If the number of children was confirmed by the schedule it was accepted. In total there were 3,660 messages for D064, 23,552 for D066 and 9,146 for D067.

D005 Households share dwelling but both rent from local authority

This doubt was raised because of the supposed rarity of sub-letting in council houses. In fact, over 16 thousand dwellings were counted and, on referring to the schedules, 95 per cent were confirmed by the schedule information and consequently were accepted.

Ten per cent edits

These were the editing stages for ten per cent data which corresponded to Edits 1 and 2 for 100 per cent data described in the preceding section. The basic programme of editing formed Edit 10 while the purpose of Edit 11 was to check that the amendments made as a result of Edit 10 had been correctly incorporated into the data.

Edit 10 contained a set of general fault and doubt messages similar to those in Edit 1, but referring to the ten per cent information. Some of the Edit 10 messages are given in Appendix 4B to this chapter.

From the list in Appendix 4B it will be seen that there were a small number of occupations, associated with mining and quarrying, which, if assigned to a female, were regarded as a fault. There was another group of about 30 occupations which, if assigned to a female, were regarded as a doubt and further occupations which had age limits assigned to them so that a person younger than a specified age and coded to this occupation was regarded as a doubt or, in some circumstances, as a fault. Messages of the above type made up 49 per cent of all those involved in Edit 10.

The remaining 51 per cent of messages involved in Edit 10 stem from the occupation/industry/status matrix. This matrix was a list of acceptable combinations of occupations and industries for people with a given employment status. If a combination of occupation with industry status was not one of those allowed by the matrix, it was edited out as a doubt. Although it was called a "doubt", technically it was similar to a "fault" in that a positive correction was called for. For a normal doubt the absence of a positive correction meant that the original data were allowed to stand. This matrix was drawn up after careful examination of the combinations found in the 1951 census and, in respect of particular difficult groups, in consultation with other bodies such as the Ministries of Labour and Agriculture, Fisheries and Food and some of the nationalised industries. Such a matrix, drawn up in advance of the census,

could not cover all possible combinations with complete accuracy and it was necessary to make provision for the amendment of the matrix in the light of unforeseen combinations which were actually found. Also, for technical reasons, the size of the matrix was limited. In theory there were a total of 2^9 combinations of economic positions which were possible for any combination of occupation and industry. The capacity of the computer was such that only about 50 such combinations could be stored. For this reason certain acceptable combinations were allowed to be raised as queries and then accepted simply to keep the matrix within permissible size. Another group of combinations which were omitted from the matrix were those which were acceptable but known to be rare. If these actually appeared in the data there was, therefore, a reasonable chance that they represented a coding or a punching error rather than correct information.

On Edit 10 a total of 265,768 messages were received. The messages received can be classified into the following very broad groups:-

- (a) A matrix message which was in fact a justified query. The source of such queries was the work of the economic activity coding section. There were 60,112 such messages representing 22.6 per cent of all messages.
- (b) A matrix message which on reference back to the original data was found to be acceptable. There were 75,732 such messages representing 28.6 per cent of the total. Many of these messages led to amendment of the matrix.
- (c) The source of the error which gave rise to a justified query was the economic activity coding section. This group, which was additional to those messages in (a) above and consisted of faults and doubts, contained 20,283 messages (7.6 per cent).
- (d) The source of the error was the workplace and migration coding section. There were 10,587 such messages (4.0 per cent).
- (e) The source of the error was the household composition coding section. There were 8,316 such messages (3.1 per cent).
- (f) The source of the error was the punching section. There were 3,475 such queries (1.3 per cent).
- (g) The source of the error was any section of information relevant to the one hundred per cent data. The bulk of the one hundred per cent data was fully edited at the Edit 1 stage. These errors occurred because some cards were mishandled and therefore had to be re-punched. There were 10,607 such queries (4.0 per cent).
- (h) An error which was consequential to a previous error raised by a different message. There were 22,426 such messages (8.4 per cent).
- (j) On investigation, the information giving rise to a message of doubt was in fact allowable and no remedial action was necessary. There were 54,230 such messages (20.4 per cent).

From this grouping it is clear that over half the messages received on the matrix were either acceptable combinations which had been deliberately omitted from the matrix mentioned earlier, or were unforeseen combinations which were in fact acceptable. On the non-matrix messages two in five were in respect of data which was allowed to stand while the remaining three out of five represented errors which arose at earlier stages of the processing operation.

It should be remembered that the editing work was, in essence, acting as a check on the quality of the work of sections carrying out the earlier stages of the processing. The ten per cent information being checked by Edit 10 had all passed through earlier coding processes which should have produced data which was generally correct and consistent. However, there were some exceptions to this general rule. Thus, for example, the economic activity coders were told to allow the status "apprentice" to appear with any occupation; only at the Edit 10 stage was this compared with a list of acceptable occupations produced by the Ministry of Labour which had been incorporated into the matrix. Also the economic activity coders did not have sex or age restrictions to apply to occupation statements. These too were left to the editing stage. This was much less true for the one hundred per cent data which was dealt with at Edit 1. For example, a relatively important part of the total Edit 1 messages were concerned with the sharing of household amenities. When this information was being examined on the schedule at the Schedule Revision stage, account was not taken of whether the household concerned was sharing a dwelling or not. This check was deliberately postponed to the Edit 1 stage. In this context the ten per cent editing was somewhat different in nature from the one hundred per cent edit.

Note: Edits for which less than 5,000 messages were received are not shown in this summary.

Edit message	Total messages	Per cent of total	From 1 in 150 sample			
			Total messages	Error due to - (per cent)		
				Data	No error	Other
All edits	1,198,940	100.00	7,296	33.5	24.2	42.3
Household edits						
F013. Household occupies whole building but shares bath and/or W.C.	273,773	22.83	1,644	92.8	-	7.2
D012. Household occupies whole dwelling but shares water supply	170,408	14.21	903	58.3	30.7	11.0
F040. Household and dwelling codes incompatible (household shares dwelling but dwelling contains only one household)	30,902	2.58	130	6.9	-	93.1
D039. Household in shared dwelling but with exclusive kitchen	29,820	2.49	125	-	76.0	24.0
F041. Household and dwelling codes incompatible (household occupies whole dwelling but dwelling contains more than one household)	28,703	2.39	164	1.8	-	98.2
D024. Invalid codes - arrangements	18,011	1.50	102	-	-	100.0
D005. Households share dwelling but both rent from local authority	16,339	1.36	61	-	95.1	4.9
D011. Household shares dwelling and water supply but has exclusive kitchen	15,590	1.30	85	-	70.6	29.4
D002. Household with more than 29 rooms	8,928	0.74	60	-	28.3	71.7
D028. Invalid code - tenure	8,791	0.73	59	-	-	100.0
D025. Invalid code - dwelling classification	7,981	0.67	13	-	38.5	61.5
D004. Households share dwelling but both are owner-occupiers	7,947	0.66	49	-	98.0	2.0
D021. Household has exclusive kitchen but individual arrangements not all exclusive	6,269	0.52	42	-	2.4	97.6
F010. Household shares cold water but has exclusive hot water	5,714	0.48	31	96.8	-	3.2
Personal edits						
D083. First marriage termination date not supplied (where date of marriage not given)	127,441	10.63	1,054	-	76.7	23.3
F056. Aged under 16 at marriage	56,368	4.70	365	63.9	0.2	35.9
D071. Invalid code - marital condition	34,472	2.88	241	-	-	100.0
D076. Invalid code - birthplace	24,609	2.05	150	-	0.7	99.3
D084. Widowed/divorced woman with date of last marriage stated	23,854	1.99	132	-	-	100.0
D066. Age at first marriage plus number of children totals more than 50	23,552	1.96	153	-	42.5	57.5
D061. Age over 94	21,476	1.79	169	-	46.1	53.9
D053. Single female/male but fertility data given	21,019	1.75	121	-	-	100.0
D048. Date of marriage prior to 1929, age at marriage 12 to 15	19,841	1.65	141	-	88.7	11.3
D081. } Invalid codes - date of marriage {	13,666	1.14	-	-	-	100.0
D080. }	13,098	1.09	-	-	-	100.0
F054. Female not single, fertility data not given	12,598	1.05	63	-	-	100.0
D082. Married female, date of marriage termination given	12,069	1.01	73	-	-	100.0
D073. Invalid code - usual residence	11,993	1.00	42	-	-	100.0
D070. Invalid code - sex	9,784	0.82	47	-	-	100.0
D067. Married female with children but married less than 1 year and no children born during year	9,146	0.76	50	-	80.0	20.0
D077. Invalid code - terminal education age	8,571	0.71	40	-	-	100.0
D072. Invalid code - age	8,533	0.71	41	-	-	100.0
D079. Invalid code - child during year	5,626	0.47	32	-	-	100.0
D095. Marital condition substitute female with fertility date	5,533	0.46	33	-	-	100.0
F055. Date of marriage later than census	5,465	0.46	35	88.6	-	11.4

Note: Edits for which less than 50 messages were received are not shown in this summary.

Edit message	From 1 in 73 sample				
	Total mess- ages in sample	Per cent of total	Error due to - (per cent)		
			Data	No error	Other
10 per cent sample edits	5,698	100.00	4.0	48.5	47.5
M167. Occupation and Industry incompatible	1,821	31.96	-	57.3	42.7
M165. Occupation/Industry and Employment Status incomplete	927	16.27	-	50.2	49.8
D161. Specified occupation but not scientifically occupied	314	5.51	-	88.9	11.1
D164. Scientifically qualified but Terminal Education Age under 20	197	3.46	-	99.0	1.0
DO99. Invalid code - migration	155	2.72	-	1.9	98.1
DO74. Female apprentice	146	2.56	-	43.1	56.9
M166. Occupation/Industry incompatible with Family Worker	127	2.23	-	87.4	12.6
D162. Occupation and Scientific Qualification incompatible	110	1.93	-	94.5	5.5
DO78. Occupation/Age and Terminal Education Age incompatible	101	1.77	-	89.1	10.9
FO53. Student but Terminal Education Age stated	99	1.74	96.0	-	4.0
DO40. Family with no married persons, eldest single person more than 12 years older than next eldest	98	1.72	-	96.9	3.1
DO96. Invalid code - workplace	91	1.60	-	-	100.0
D140. Invalid code - occupation	91	1.60	-	-	100.0
DO73. Apprentice aged over 25	90	1.58	-	56.7	43.3
DO91. Invalid code - economic position	89	1.56	-	-	100.0
DO97. Invalid code - employment status	80	1.40	-	5.0	95.0
DO90. Invalid code - household composition	77	1.35	-	2.6	97.4
DO92. Invalid code - hours worked	76	1.33	-	5.3	94.7
DO55. Retired aged under 55	71	1.25	-	80.3	19.7
DO77. Usual residence, birthplace and length of stay incompatible	56	0.98	-	62.5	37.5
FO61. Male employed part-time but last full-time occupation not stated	54	0.95	1.9	-	98.1

CHAPTER 5

1951-1961 Comparisons

Introduction

Comparability between successive censuses is clearly desirable. Nevertheless, comparability presents dilemmas. In the first place, no census is perfect and to correct the mistakes of one census at the next produces an improvement but also produces a loss of comparability. Where the improvement made is great then the loss of comparability is a price worth paying: where the improvement is small then the balance between gain and loss becomes much finer.

A more fundamental cause of lack of comparability is the continuous process of change. One very simple example is the growth of urban areas. As towns grow they spread beyond the boundary of the administrative area. Assuming that the official boundaries do not change figures from successive censuses will be comparable in the sense that they refer to the same area of land. But in the sense that they will refer to a falling proportion of the population of the town such figures will not be comparable and will become steadily divorced from reality.

Changes in the response to questions and hence comparability between figures produced can be influenced by the wording or arrangement of questions which are otherwise identical. Changes can be made between censuses in the design of the census schedule which aim at making it easier to complete. To the extent that such an aim is fulfilled, census statistics will become less comparable. However, such changes can be difficult to predict. The census schedule is completed by millions of individuals whose reactions vary. In the design of questions, certain features must be picked out for emphasis. To the extent that the selection of emphasised points changes between censuses, the response to the question is likely to be altered.

A large number of users of census data wish to make comparisons between the results of successive censuses. For such comparisons to be completely valid it would be necessary for the questions, explanatory notes, processing conventions, definitions used and the classifications used in the tables to be comparable. For very simple topics, such as sex and age, these conditions are usually met, but for the more complicated topics great care should be exercised by the user of census statistics to ensure that figures that appear comparable are in fact so. The aim of this chapter of the statistical assessment is to indicate some of the main instances where the data from the 1961 Census is not wholly comparable with apparently similar data from the 1951 Census.

No major difficulties should arise with the use of 1961 Census information on sex, age, marital condition, birthplace or terminal education age. Care needs to be exercised with the information on nationality because of the introduction of the concept of citizenship for people belonging to the Commonwealth in place of the concept of British nationality used in the 1951 Census.

Usual residence

The questions concerning usual residence which appeared on the census schedules in 1951 and 1961 were similar. The notes explaining the questions, however, did have certain differences. In 1961 no special guidance was given to visitors from abroad who in 1951 were reminded to give the full postal address where they normally reside. Nor was special guidance given in 1961 to people with a settled residence in a hotel, boarding-house, or hostel, who were reminded in 1951 that if they were enumerated in these places they should state that they were resident "Here". These reminders were not thought to be necessary in 1961 and their omission caused no apparent difficulty.

School-children and students who lived away from home during term time but were enumerated at home at the census were told in 1951 to give their school, college or lodgings as their usual residence whereas in 1961 they were instructed to give their home address as their usual residence. In a similar way, members of Her Majesty's Armed Forces who were enumerated at home, were told in 1951 to give their barracks, quarters, station or shore establishment as their usual residence; in 1961 they were told to give their married quarters or other home address as their usual residence. These changes were made because experience in 1951 was that reasons of family affinity led heads of households containing such people to return them as being resident there if they were present on census

night. It was thought that the practice adopted in 1961 would be more likely to be followed. These changes were generally believed to have improved the quality of response for these groups. Nevertheless, substantial numbers of Her Majesty's Forces who were absent on leave on census night (wrongly) gave their station instead of their home address as their usual residence. Special adjustments were made to the population figures on a usual residence (census definition) basis in the few places where this happened on an important scale.

Neither in 1951 nor in 1961 was specific guidance given to people who work and live in one area during the week but live in some other area possibly at their parents' home, at the weekend.

The treatment of inmates in institutions differed between 1951 and 1961. In 1951, "inmates and patients" who were expected to be discharged within six months from census day were not to be regarded as resident at the institution. Other inmates or patients were treated as resident in the institution. The persons responsible for completing the schedules for certain institutions, particularly mental hospitals, found this rule rather difficult to operate in 1951. In 1961, the problem was approached in a different way. Institutions were divided into four groups, and the allocation of usual residence depended upon the group to which the individual institution belonged as follows:-

Group A. This group included institutions providing Part III and IV accommodation, epileptic colonies, homes for incurables, homes for the blind, homes for the deaf and dumb, homes for mentally defective children and alms houses. All inmates in this group were regarded as usually resident in the institution.

Group B. This group included convalescent homes, general, maternity or special hospitals (not psychiatric), homes for unmarried mothers, maternity homes, general nursing homes and sanatoria. The inmates in this group were to be regarded as usually resident at home, not in the institution.

Group C. This group included chronic sick hospitals, psychiatric hospitals and prisons. Patients in hospitals or prisoners in prisons were to be regarded as resident in the institution if they had been there for six months or more. Otherwise they were to be regarded as resident at home.

Group D. This group included establishments which were a combination of institutions in Groups A, B or C. The person completing the schedules was told to try to classify the inmates into the separate groups listed and to allocate usual residence in accordance with the guidance given for each group.

Fertility

In 1951, the fertility questions were asked only of women under 50 at census date. The basic analysis was made from women married once only, i.e., women married under 50 and still in their first marriage at the time of the census. In 1961, the questions on fertility were extended to all women, and the inclusion of these older women has permitted the basic analysis to be related to a wider group of women, that is women with uninterrupted first marriage. These were married women whose only marriage took place before they were 45 and was still in existence at census date, plus any other women whose first or only marriage took place before they were 45 and lasted until they were 45, irrespective of their marital condition at census date. Certain tables in the *1961 Fertility Tables* still related to women married once only, but in 1961 these women could be of any census age though they must have been under 45 when they married.

Dwelling

In the 1951 Census, the term "Dwelling" included whole buildings or houses which were not sub-divided and also any structural sub-divisions of buildings or houses. A structural sub-division was defined as "a portion of a house or building which has been structurally designed or adapted for use as a separate self-contained dwelling. Its distinctive feature is that it has a separate front door of its own, apart from the street door, if any, giving entrance to the house or building as a whole".

In 1961, the instructions and examples given to enumerators generally aimed at adding precision to the 1951 concept without changing it. The main specific changes were that normally a dwelling had to have more than one living room in addition to the kitchen and bathroom and also that bed-sitting rooms and some one-room flatlets should not be counted as separate dwellings.

In 1951, separate dwellings were not identified in hotels, boarding-houses, hospitals or other institutions. In 1961, on the other hand, private quarters in such institutions were counted as dwellings even though access was through the main institution. A particular example of this was the treatment of married quarters in defence establishments. In 1951, any married quarters located within the boundary of the defence establishment would not have been counted as separate dwellings. In 1961, married quarters which met the condition of being structurally separate were usually classified as separate dwellings.

Rooms

The general purport of the definition of a room which was used in 1961 was the same as in 1951. In 1961, however, it was specifically stated that rooms available for living, eating or sleeping but not actually in use should be included. The comparable section of the instructions in 1951 stated that "all rooms in which the household live, eat or sleep, including the kitchen if so used, should be counted, but a scullery (or kitchenette), landing, lobby, closet, or a bathroom should not normally be included". The lack of specific mention of unfurnished spare bedrooms, etc. may have led to their exclusion in 1951, compared with their inclusion in 1961. This may well contribute to the small but widespread apparent increases between 1951 and 1961 in the number of dwellings and household spaces with relatively large numbers of rooms.

Household

The general definition of a household used at the 1961 Census was the same as in 1951. In 1951, however, there was no requirement that a household must have exclusive use of a room and a number of one-room dwellings are therefore shown in the 1951 tables as being shared by more than one household: in 1961 all the people sharing one room would have been counted as a single household. In 1951, private households within the boundary of an institution were included as part of the population of the institution and were not enumerated as separate private households as they were in 1961.

Another difference relates to households with all members temporarily absent on census night. In 1951 a household would have been counted and would have appeared in the census tables only if at least one member of the household was present on census night. A number of tables from the 1961 Census give details of the number of households of which all members were absent on census night and of the number of rooms they occupied. This difference produced consequential changes in the treatment of dwellings. In 1951 a dwelling was regarded as occupied if a householder was present on census night. In 1961 a dwelling was counted as occupied either if a member of the household was present or if a household was usually resident in the dwelling. Conversely, in 1951 a dwelling where no household was present was classified as vacant, whereas in 1961 it was necessary both for no one to be present on census night and also for no household to be usually resident in a dwelling before it was classified as vacant.

Household arrangements

The 1951 question on cooking stove or range was not repeated in 1961 while the hot water tap question in 1961 did not appear in 1951. The questions on fixed bath were practically identical at the two censuses.

The 1961 question on the use of a cold water tap referred to a cold water tap within the building. The 1951 question referred to a piped water supply within the house though the notes on the schedule stated that in order to be counted the tap had to be capable of being reached without leaving the shelter of the building or an attached covered structure. The reference to an attached covered structure was not repeated in 1961 and could have introduced some slight lack of comparability between 1951 and 1961.

The definition of water closet was the same in 1951 and 1961 as far as the type of appliance which was counted. In 1961, the water closet had to be in the building or attached to it: in 1951, on the other hand, no restriction was made as to the permissible location of the water closet. This change in wording led to the apparently strange situation, which was particularly marked in some parts of the North of England, in which the number of households without use of a water closet increased between 1951 and 1961 while the number of households sharing a water closet decreased. In this respect the figures for 1951 and 1961 were not comparable and were not intended to be so. The more restricted wording used in 1961 aimed at excluding water closets at the end of the yard or in a block separated from the house itself. The actual wording used was not wholly successful in this object and in the 1966 Census the question was altered considerably to ask whether the household had the use firstly of a water closet with entrance inside the building and then, in addition, whether the household had the use of a water closet with entrance outside the building (e.g. in the garden, backyard or lane).

Occupation, industry and derived characteristics

In 1961 the questions on occupation, industry, etc., which were only asked of the ten per cent sample, were re-arranged in an attempt to simplify this group of questions. Separate blocks of questions were put to those in employment, those out of employment or wholly retired and to other persons. The name of the employer and his business was asked first, followed by the occupation, place of work, whether part-time or full-time and the last full-time employment of part-time workers. In 1951 questions to all groups of people were included in a single block: occupation was asked first (this included a statement of whether the employment was part-time) followed by the name of the employer, the employer's business and place of work. The hours of work and former full-time employment of part-time workers were not asked in 1951. The general substance of the common questions was the same. However, questions in 1961 were related to the week before census day. The first section for people in employment was to be completed by anyone who was in employment at any time during the week ending 22nd April, 1961 and was to be completed with respect to that employment. The second section was to be completed by people not in employment or who were wholly retired at the end of the week before census. In 1951, no such time reference was given in the question and the notes referred to "the usual occupation by which the living is mainly earned" (note 15). This difference is likely to have influenced the numbers shown as employed in seasonal occupations or industries, but the impact of this change is likely to be partly hidden by the overall difficulties in comparing the industry and occupation classifications discussed below. The wording of the occupation question in 1951 also encouraged people to go back through their employment history to what they regarded as their "usual" occupation or their trade.

Comparison of the Industrial Classification 1951-1961

The industrial classification used in the 1961 Census was the *1953 Standard Industrial Classification*. This was a revised version of the *1948 Standard Industrial Classification* used for the 1951 Census. Although there were many changes in detail the main framework of the two classifications remained broadly similar. An attempt was therefore made to compare the two classifications and this was published in Appendix D of the *Industry Tables, Part I*.

This comparison was made in both descriptive and quantitative terms. The descriptive comparison consists of a list of those 1948 minimum list headings or parts of headings which are broadly equivalent to each individual 1958 minimum list heading. Where 1948 headings or their sub-divisions were split between two or more 1958 headings, a verbal description was given of the nature of this split. This comparison was derived from a detailed analysis of the definitions given in the three publications:-

Standard Industrial Classification (Revised 1958) (H.M.S.O. 1958)

Standard Industrial Classification - Alphabetical List of Industries (H.M.S.O. 1959)

Census 1951, Classification of Industries (H.M.S.O. 1952)

In some ways it would have been desirable also to make this comparison the other way, that is, to describe each 1951 minimum list heading in terms of 1961 minimum list headings or more sections of these. Shortage of time prevented this exercise being carried out, though in some ways it would have been more satisfactory because the basis of the comparison was a double classification of Ministry of Labour data for 1959 when the structure of the employed population would more closely resemble 1961 than 1951. In practice, Appendix D to Part I can be rearranged to give the alternative version, though it is a laborious task.

The quantitative comparison contained two parts. The first was a re-allocation of the total employed population in the 1951 Census, originally analysed by the *1948 Standard Industrial Classification* to the headings of the *1958 Standard Industrial Classification*. The second item was the reverse exercise, that is, the re-allocation of the 1961 employed population to the 1948 headings. In the cases where a 1948 heading was split between two or more 1958 headings, or vice versa, auxiliary information was necessary to determine the size of each component. Some assistance in doing this was obtained from Ministry of Labour information.

Each month the Ministry of Labour obtains information about the current numbers of employees on pay rolls from a sample of 35,000 establishments in certain sections of industry, such as manufacturing and distribution. For September 1959 the return from each establishment was coded firstly according to the *1958 Standard Industrial Classification* and, secondly, according to the 1948 classification. This dual coding enabled estimates of employees in Great Britain in these sectors of industry to be analysed by the minimum list headings of each edition of the classification. From this data the Ministry of Labour

constructed a table in which the grossed-up estimate of the employed population derived from this sample was distributed over a two-way table in which the old classification minimum list headings were crossed with the new classification minimum list headings.

This two-way table forms the basis for the comparison shown in Appendix D of *Part I* of the *Industry Tables*. It was, however, necessary to make certain further adjustments to this two-way table before the comparison was finally produced. The sample of 35,000 establishments was reasonably representative of the manufacturing and distribution sections of industry but naturally sometimes provided an unsatisfactory sample of individual industries. Another difficulty was that when the dual coding was being carried out in local offices of the Ministry of Labour, the opportunity was taken when re-coding them to the new classification, to allocate particular establishments to minimum list headings to which they more truly belonged but which did not always correspond with the former minimum list headings. Another difficulty was that the data referred only to employees in employment and totally excluded the self-employed. Also it referred to Great Britain rather than England and Wales.

In the light of these defects it was necessary to carry out an item by item examination of each figure in the data mentioned above and any clues suggested by 1951 and 1961 Census data. Eventually it was possible to produce a table of proportions into which the 1961 employed population in a particular 1958 classification minimum list heading needed to be split in order to be re-allocated to the 1948 classification minimum list heading or any parts thereof. These tables were then used to produce the final comparison of 1951 and 1961 Census figures.

Comparison of Occupation Classification 1951-1961

An attempt was made to complete an analogous exercise for the occupation classifications to that described above for the Industrial Classification. For occupation the difficulties were much greater. The classification used in 1961 was drawn up in the light of the experience of 1951 and, in particular, the conclusion that the degree of sub-division in the 1951 and earlier occupation classifications was over-elaborate having regard to the quality of the answers given at census and at death registration. It was therefore decided to reduce the number of unit groups from about 600 to about 200 and to base the new classification on the *International Standard Classification of Occupations*. As well as being much shorter, the new classification introduced a number of changes in principle which make it impossible to make direct comparisons even between fairly large aggregates of occupation codes.

Nevertheless an attempt was made to provide a comparison between the two classifications. For another purpose a sample of 100,000 people had been drawn from the ten per cent sample part of the 1961 Census data. This sub-sample was re-coded to the occupation code they would have had in 1951. Grossing-up this sample gives an estimate of the distribution of men and women in the 1961 Census population according to the *1951 Classification of Occupations*. This comparison, however, suffers from certain defects. The staff who carried out this exercise had been trained on 1961 Census procedures. Even though they were using the 1951 classification, this basic training is likely to have affected their approach and doubtful cases would be likely to be coded in a different way from that which would have actually obtained in 1951. Certain terms which appeared in the 1961 Census did not appear at all in the 1951 classification. Thus from the field of census work itself the terms "Programmer" and "Computer Engineer" do not appear in the classification used in 1951. It appears that such terms could affect the numbers allocated to certain 1951 groups by as much as 10 per cent. Since the allocation was based on a sub-sample of 100,000, the sampling errors attached to the estimates for the smaller 1951 occupation units are relatively so large as to make the numbers appearing very unreliable. The bias in the 1961 ten per cent sample, which was noted in Chapter 2, will also affect the comparison though there is no evidence that the distortion from that source would be large.

The results of re-coding this sub-sample from 1961 to the 1951 classification are shown in Table 54 for occupation orders and for the larger occupation units. Any attempt to use the figures there should always be related to the defects noted above.

In theory it is possible to attempt the reverse exercise, that is to make use of the ratios between 1951 and 1961 populations classified according to the 1951 classification in order to re-classify the 1951 population according to the classification used in 1961. This exercise is of even less validity. Not only is it subject to the defects noted above, but, in addition, it involves an assumption that no changes have taken place in the occupational structure of the population between 1951 and 1961. It is not proposed to publish the results of this second exercise but they are obtainable on request to the General Register Office.

Table 54 Comparison of 1951 and 1961 Census:
Occupation

England and Wales

Note: The 1961 figures in this table are based on a 1 in 200 sample.

Occupation and Code number 1951	1951	1961
MALES		
TOTAL POPULATION	21,015,633	22,303,833
TOTAL POPULATION (aged 15 and over)	16,067,083	16,992,300
TOTAL OCCUPIED POPULATION (aged 15 and over)	14,063,542	14,649,000
I. FISHERMEN	15,248	10,800
000 Fishermen	15,248	10,800
II. AGRICULTURAL, HORTICULTURAL AND FORESTRY OCCUPATIONS	961,300	741,400
1. Agricultural and horticultural occupations	862,797	681,400
040 Farmers, farm managers	257,036	262,800
041 Farm bailiffs, farm foremen	15,351	13,000
043 Market gardeners, nurserymen, seedsmen, flowergrowers	46,236	29,600
045 Other gardeners	125,724	114,400
049 Other agricultural workers	411,305	257,000
2. Occupations ancillary to agriculture	77,003	40,600
022 Agricultural machine, tractor proprietors, foremen, drivers, attendants	64,226	35,400
3. Foresters and woodmen	21,500	19,400
030 Foresters and woodmen	21,500	19,400
III. MINING AND QUARRYING OCCUPATIONS	589,714	469,600
1. In coal mines	548,570	444,200
040 Subordinate superintending staff (including overmen, deputies, examiners, foremen)	37,554	32,000
Workers below ground:-		
041 Coal cutting and power-loading machine men	21,531	15,000
042 Hewers and getters (by hand) (including powered hand tool workers)	179,020	182,400
043 Persons conveying material to the shaft	75,388	29,800
044 Persons developing underground workings in rock	52,818	36,000
045 Persons repairing and maintaining roads	44,004	27,600
047 Other workers below ground	67,487	64,200
049 Other workers above ground	70,768	57,200
2. In other mines, quarries and workings and at brine pits and oil wells	41,144	25,400
059 Other workers	17,228	11,800
IV. WORKERS IN THE TREATMENT OF NON-METALLIFEROUS MINING PRODUCTS (OTHER THAN COAL)	81,161	76,600
1. Makers of bricks, tiles, pottery and fireclay goods	41,877	39,200
066 Kiln and oven men, kiln setters and placers	14,699	10,800
2. Makers of glass and glass ware	26,708	23,200
079 Other skilled workers	15,616	14,600
3. Makers of other non-metalliferous mining products	12,576	14,200
089 Other skilled workers	9,102	14,000
V. COAL, GAS AND COKE MAKERS, WORKERS IN CHEMICAL AND ALLIED TRADES	93,000	108,800
1. Makers of coal gas and coke	17,014	10,200
2. Workers in chemical and allied trades	75,986	98,600
100 Foremen, overlookers	9,512	16,000
101 Mixers, blenders, grinders	10,104	12,200
109 Other skilled workers	52,897	67,800
VI. WORKERS IN METAL MANUFACTURE, ENGINEERING AND ALLIED TRADES	2,260,189	2,460,600
1. Foremen, overlookers	121,127	153,400
113 Machine shop	12,010	12,000
114 Fitting, erecting	30,055	18,400
115 Electrical work	21,688	33,200
119 Other and undefined	46,024	77,400
2. Furnacemen (not annealing or foundry)	26,387	28,400
122/5 Blast and other furnacemen and teams	26,184	28,400
3. Rolling and tube mill workers, wire drawers	25,055	25,200
4. Foundry workers (excluding pattern makers)	121,101	95,200
131 Iron or steel moulders and core makers	53,495	40,400
132 Non-ferrous moulders and core makers	12,872	11,800
135 Iron foundry labourers	34,273	28,800
5. Smiths, forgemen	58,363	49,200
145 Blacksmiths	45,555	28,600
146 Forgemen, pressmen	10,498	18,000
6. Annealers, hardeners, temperers, picklers	12,390	10,800
7. Coppersmiths, sheet metal workers, metal spinners	71,216	77,200
156 Sheet iron and sheet metal workers	63,453	71,600
8. Platers, riveters, shipwrights	77,441	64,000
160 Platers	34,028	34,200
161 Platers' labourers	11,580	10,200
164 Shipwrights	16,920	10,800
9. Metal machinists	215,519	237,000
173 Turners (not brass)	65,883	68,200
174 Drillers (hand or machine)	32,628	29,000
176 Machine setters, setter operators	107,383	129,600
10. Fitters, machine erectors	728,801	777,400
181 Precision fitters, tool makers, machine tool fitters	194,196	221,200
183 Machine erectors, millwrights, maintenance engineers	268,605	266,800
184 Motor and motor cycle mechanics	135,830	145,400
185 Fitter-assemblers	11,217	11,600
188 Other fitters	62,871	83,800
189 Machine erectors', fitters', mechanics' mates	54,972	48,000
11. Metal finishers	39,644	37,200
192 Glazers, polishers, buffers and moppers	24,591	23,400
193 Electro platers, nickle platers	8,582	10,000
12. Plumbers, pipe fitters, etc.	145,226	148,000
200 Plumbers (not chemical plumbers)	89,840	92,400
202 Gas fitters	17,844	17,400
203 Pipe fitters	24,211	29,400

Table 54 Comparison of 1951 and 1961 Census:
Occupation - continued

Occupation and Code number 1951	1951	1961
Males - continued		
VI. WORKERS IN METAL MANUFACTURE, ENGINEERING AND ALLIED TRADES - continued		
13. Vehicle makers and repairers (not elsewhere specified)	20,479	16,000
14. Watch, clock and scientific and surgical instrument makers (not elsewhere specified)	39,958	35,000
210 Scientific instrument makers and repairers	24,775	29,000
15. Workers in precious metals; gem setters	8,439	11,200
16. Electrical apparatus makers and fitters (not elsewhere specified) and electricians	312,389	393,200
237 Radio and radar mechanics	23,366	42,400
239 Other workers in electrical communications and signalling systems	47,587	64,800
241 Electrical fitters	71,986	79,200
242 Electricians (house, ship, factory)	129,794	155,800
243 Linemen and cable jointers	20,449	27,200
249 Other skilled electrical workers	9,103	12,800
17. Inspectors, viewers, testers	77,958	96,400
254 Electrical work	13,844	23,000
259 Other inspectors, viewers, testers	54,528	66,200
18. Other skilled workers	158,696	205,800
261 Oxy-acetylene or electric welders and cutters	61,419	89,800
263 Constructional engineers (not professional), steel erectors, structural iron workers	23,819	25,600
271 Press workers and stampers (not hot or hydraulic); drawers (not wire or tube)	22,345	25,600
279 Other skilled workers	26,164	43,800
VII. TEXTILE WORKERS	197,639	144,600
1. Openers, sorters, blenders, carders, combers, drawers	23,550	15,400
2. Spinners, doublers	34,962	14,800
3. Winders, warpers, sizers, drawers-in	14,410	16,400
4. Weavers	25,987	27,000
311 Weavers (not carpets)	20,771	17,600
5. Knitters	13,829	11,800
321 Hosiery frame tenters and knitters	13,159	11,000
6. Bleachers, dyers, finishers	53,126	42,000
332 Dye house workers	16,870	11,600
339 Other workers in bleaching, dyeing and finishing	20,987	16,800
7. Other skilled workers	31,775	17,200
VIII. TANNERS, ETC., LEATHER GOODS MAKERS, FUR DRESSERS	116,864	83,600
1. Leather tanners and dressers, fellmongers, fur dressers	17,594	13,800
2. Boot and shoe makers	87,802	65,400
361 Boot and shoe makers and repairers (not factory)	36,653	22,600
362 Clickers, pattern cutters	11,077	12,000
369 Other skilled workers	12,938	12,200
IX. MAKERS OF TEXTILE GOODS AND ARTICLES OF DRESS (NOT BOOTS AND SHOES)	124,165	96,800
1. Garment workers	74,644	58,400
363 Tailors	32,560	20,200
3. Upholsterers, coach trimmers, bedding and mattress makers	33,622	29,000
401 Upholsterers, coach trimmers, etc.	29,459	24,800
X. MAKERS OF FOODS, DRINKS AND TOBACCO	148,897	134,800
1. Makers of foods	124,425	107,800
420 Foremen, overlookers	10,238	13,800
422 Bakers and pastry cooks	67,189	37,200
439 Other skilled workers	17,342	23,400
2. Makers of alcoholic drinks	16,499	19,400
XI. WORKERS IN WOOD, CANE AND CORK	433,321	428,400
470 Foremen, overlookers	20,873	26,000
471 Cabinet makers	31,376	24,800
472 Carpenters, joiners	244,213	264,400
473 Coach, carriage, van and cart builders; body builders	30,051	23,400
476 Pattern makers (wood or undefined)	15,330	18,200
479 Other sawyers, wood turners, wood cutting machinists	54,717	50,800
489 Other skilled workers	14,391	10,400
XII. MAKERS OF AND WORKERS IN PAPER AND PAPERBOARD; BOOKBINDERS, PRINTERS	161,725	200,800
1. Makers of paper, paperboard	15,118	22,000
2. Makers of stationery, bags and boxes; other workers in paper	13,900	17,200
3. Printers, bookbinders	132,707	161,600
521 Compositors (hand or machine)	34,618	39,400
524 Process engravers, photographers (printing trades)	8,979	14,000
526 Letterpress or litho printing machine minders and setters	28,209	31,400
527 Letterpress or litho printing machine assistants	15,303	17,600
528 Printers (so returned)	13,971	21,600
539 Other skilled workers	7,814	12,800
XIII. MAKERS OF PRODUCTS (NOT ELSEWHERE SPECIFIED)	84,507	94,200
1. Workers in rubber	30,706	42,800
541 Mixers, spreaders, moulders	10,104	13,400
549 Other skilled workers	16,455	23,800
2. Workers in plastics moulding, manipulating, etc.	12,041	23,200
551 Plastics moulders and pressers, etc.	7,601	11,400
4. Makers of other products	34,928	24,200
579 Other skilled workers	13,757	10,000

Table 54 Comparison of 1951 and 1961 Census:
Occupation - continued

Occupation and Code number 1951	1951	1961
Males - continued		
XIV. WORKERS IN BUILDING AND CONTRACTING	840,475	838,200
580 Foremen, gangers	46,994	51,200
582 Builders' labourers	89,357	67,600
583 Bricklayers	141,639	137,000
584 Bricklayers' labourers	45,950	22,600
585 Plasterers	37,967	40,400
586 Slaters and tilers	11,570	16,600
589 Masons, stone cutters	20,508	15,400
593 Platelayers	40,870	31,600
594 Paviers, street masons and asphalters	10,481	13,600
597 Builders	56,551	55,000
598 Other skilled workers	21,899	51,400
599 Other workers (mainly navvies)	288,899	309,400
XV. PAINTERS AND DECORATORS	298,566	283,000
600 Foremen, overlookers	9,639	11,800
601 Aerographers, paint sprayers	16,324	22,000
602 French polishers	17,049	12,200
609 Other painters and decorators	249,864	230,600
XVI. ADMINISTRATORS, DIRECTORS, MANAGERS (NOT ELSEWHERE SPECIFIED)	406,190	525,600
610 Civil Service administrative and other higher officers	10,118	11,200
611 Civil Service executive and higher clerical officers	49,396	49,400
612 Local Authority administrative and executive officers	23,410	33,200
614 Secretaries and registrars of companies, institutions and charities	26,329	36,400
615 Heads or managers of commercial and industrial office departments	52,365	63,000
Managers in:-		
620 Mining and the treatment of non-metalliferous mining products	12,579	18,000
621 Chemical and allied trades (including coal gas production)	11,807	15,200
622 Engineering and allied trades	89,683	136,400
623 Production of textiles, textile goods, leather and leather goods	38,897	39,000
624 Building and contracting	38,484	66,000
629 Other industrial undertakings	53,122	57,800
XVII. PERSONS EMPLOYED IN TRANSPORT AND COMMUNICATIONS	1,403,722	1,400,400
1. Railway transport workers	274,233	217,600
630 Railway officials, station masters, yard masters, passenger and goods agents	16,259	24,200
631 Locomotive engine drivers	44,760	37,800
633 Locomotive engine firemen	36,591	27,200
634 Locomotive running shed workers	16,522	13,600
635 Guards	24,303	19,800
636 Signalmen	26,220	21,400
637 Shunters, pointsmen and level crossing men	27,645	22,400
639 Porters (including lampmen)	64,321	39,000
2. Road transport workers	707,014	768,600
652 Haulage and cartage contractors and managers; master carmen	17,412	20,400
653 Inspectors and foremen (not horse foremen)	17,407	25,200
657 Drivers of buses and coaches	89,218	86,000
658 Drivers of other self-propelled passenger vehicles	56,393	52,200
659 Drivers of self-propelled goods vehicles	369,727	435,600
660 Lorry drivers' mates, van guards, etc.	31,766	22,600
661 Bus and tram conductors	66,181	54,400
663 Garage proprietors and managers	17,546	32,400
669 Other road transport workers	7,304	18,000
3. Water transport workers	191,162	161,400
672 Wharfingers and stevedores	9,655	11,400
673 Navigating officers and pilots	11,417	11,200
674 Engineering officers, electricians (on board ships, boats, etc.)	11,513	10,000
675 Petty officers, seamen and deck hands	26,960	21,800
678 Purser, stewards and domestic staff	15,698	14,200
681 Dock labourers	72,326	60,000
4. Air transport workers	5,886	12,400
5. Other workers in transport and communications	225,427	240,400
700 Managers and directors	9,395	14,000
701 Foremen, supervisors	9,407	11,800
702 Postmen, post office sorters	83,351	91,400
705 Telephone operators	16,751	14,000
706 Messengers	41,806	38,800
708 Porters (not elsewhere specified)	42,365	40,000
709 Other workers	7,432	14,800
XVIII. COMMERCIAL, FINANCE AND INSURANCE OCCUPATIONS (EXCLUDING CLERICAL STAFF)	1,227,541	1,462,400
1. Commercial occupations	1,097,155	1,302,800
710 Proprietors, managers of wholesale businesses	89,253	85,600
711 Brokers, agents, factors (miscellaneous, not elsewhere specified)	18,852	19,000
712 Buyers (not manufacturers')	12,838	13,800
713 Sales managers (manufacturers')	22,615	51,200
714 Advertising agents and managers	10,274	21,800
715 Commercial travellers, canvassers (not dock, insurance or railway)	127,201	201,000
Proprietors, managers of retail businesses for the sale of:-		
720 Grocery, provisions	78,694	93,400
721 Greengrocery	30,361	36,800
722 Meat	40,330	38,400
723 Fish, poultry	11,751	14,000
724 Other food goods	15,240	19,600
726 Confectionery, tobacco, newspapers	35,159	36,000
728 General and mixed businesses	22,081	25,200
729 Other non-food goods	148,856	188,600
Salesmen, shop assistants selling:-		
730 Grocery, provisions	58,976	37,000
731 Greengrocery	14,068	13,000
732 Meat	50,993	70,000
734 Other food goods	6,465	11,600
739 Other non-food goods	108,546	123,200
741 Roundsmen, van salesmen	83,819	90,600
742 Coal carmen, coal hawkers	22,531	22,800
743 Costermongers and other hawkers	27,778	28,600
749 Other commercial occupations	21,927	29,600

Table 54 Comparison of 1951 and 1961 Census:
Occupation - continued

Occupation and Code number 1951	1951	1961
Males - continued		
XVIII. COMMERCIAL, FINANCE AND INSURANCE OCCUPATIONS (EXCLUDING CLERICAL STAFF) - continued		
2. Persons employed in finance and insurance	130,386	159,600
751 Bankers, bank managers, inspectors, etc.	14,454	24,800
752 Stock brokers, stock jobbers	5,192	10,200
753 Insurance managers, underwriters	23,818	36,000
755 Insurance agents and canvassers	52,024	44,000
756 Auctioneers, estate agents, appraisers, valuers	22,715	28,000
XIX. PROFESSIONAL AND TECHNICAL OCCUPATIONS (EXCLUDING CLERICAL STAFF)	714,197	1,108,000
Religion:-		
760 Clergymen (Church of England)	16,563	21,000
762 Ministers of other religious bodies	9,760	11,400
Law:-		
765 Solicitors	19,689	23,200
Medicine:-		
766 Physicians, surgeons, registered medical practitioners	35,798	44,000
768 Dental practitioners	10,697	13,000
Nursing:-		
770 Trained nurses, midwives	19,144	19,800
Medical auxiliary services:-		
774 Pharmacists	11,104	11,200
779 Others	12,739	15,800
Teaching:-		
785 Other teachers	119,270	183,200
Professional engineering, surveying and architecture:-		
786 Civil, structural, municipal engineers	22,549	37,400
787 Mechanical engineers	24,905	70,000
788 Electrical engineers	19,938	56,800
791 Surveyors	30,980	42,200
792 Architects, town planners	15,109	19,000
799 Draughtsmen (not elsewhere specified)	106,802	164,400
Science:-		
800 Chemists (not pharmaceutical chemists)	20,448	21,200
804 Laboratory assistants, technicians (not elsewhere specified)	47,609	104,000
809 Other scientists	9,561	14,600
810 Qualified accountants	31,851	47,400
811 Authors, editors, journalists, publicists	19,086	30,200
814 Social welfare workers	9,418	12,200
815 Painters, sculptors, engravers (artists)	12,084	14,200
819 Other professional and technical occupations	17,202	41,000
XX. PERSONS EMPLOYED IN DEFENCE SERVICES	685,813	486,200
1. Armed Forces	527,657	295,400
821 Royal Navy, Royal Marines - other ratings	79,325	53,200
823 Army - other ranks	224,081	103,800
824 Royal Air Force - commissioned officers (effective)	16,587	16,400
825 Royal Air Force - other ranks	182,020	107,200
2. Civilian Defence Services	158,156	190,800
Police (including dock, railway and aerodrome police):-		
831 Other ranks	69,488	85,800
832 Fire brigade officers and men	24,826	33,000
833 Watchmen	40,150	32,800
839 Other occupations	19,314	34,600
XXI. PERSONS PROFESSIONALLY ENGAGED IN ENTERTAINMENTS AND SPORT	82,140	77,000
849 Bookmakers	8,434	11,800
855 Other occupations	15,520	20,200
XXII. PERSONS ENGAGED IN PERSONAL SERVICE (INCLUDING INSTITUTIONS, CLUBS, HOTELS, ETC.)	465,624	492,400
862 Proprietors and managers of restaurants	39,846	39,200
864 Proprietors and managers of hotels	11,413	18,600
865 Publicans, beersellers, innkeepers	50,908	49,200
866 Barmen, barmaids	11,801	12,800
867 Waiters, waitresses, still room hands	21,031	24,600
869 Hall and hotel porters; door-keepers and carriage attendants	18,401	13,600
871 Hospital or ward orderlies, attendants	21,353	26,000
873 Barbers, hairdressers, manicurists	36,084	41,800
874 Photographers (not printing trades)	15,115	13,400
875 Caretakers, office keepers	41,591	54,200
876 Charwomen, office cleaners	13,176	19,000
877 Laundry workers	14,178	11,400
879 Window cleaners	32,728	33,200
882 Chefs, cooks	32,253	34,800
883 Kitchen hands	18,679	16,600
888 Others in personal service	31,805	36,200
XXIII. CLERKS, TYPISTS, ETC.	861,679	956,200
890 Clerks (not elsewhere specified)	600,712	728,000
891 Shorthand typists, secretaries (not company secretaries)	14,355	10,400
895 Costing, estimating and accounting clerks (including book-keepers)	243,234	214,200
XXIV. WAREHOUSEMEN, STOREKEEPERS, PACKERS, BOTTLERS	348,305	398,800
900 Warehousemen	97,212	99,200
901 Storekeepers	131,906	174,800
902 Warehouse and storekeepers' assistants (so returned - not lace warehouse hands)	47,299	46,800
909 Other packers and bottlers (including wrappers, labellers, ticketers)	55,096	61,200
XXV. STATIONARY ENGINE DRIVERS, CRANK DRIVERS, TRACTOR DRIVERS, ETC., STOKERS, ETC.	225,905	226,000
Stationary engine drivers:-		
911 Others	39,376	36,200
912 Crane drivers	41,006	49,200
913 Drivers of civil engineering plant (not elsewhere specified)	24,735	40,800
914 Slingers and riggers	15,881	24,000
915 Boiler firemen and stokers	71,702	54,200
921 Others	8,115	11,400

Table 54 Comparison of 1951 and 1961 Census:
Occupation - continued

Occupation and Code number 1951	1951	1961
Males - continued		
XXVI. WORKERS IN UNSKILLED OCCUPATIONS (NOT ELSEWHERE SPECIFIED)	1,118,942	1,193,600
930 Assemblers (not elsewhere specified)	26,845	34,000
Machine minders:-		
931 Engineering and allied trades	90,535	112,600
932 Others	7,789	14,400
Labourers and other unskilled workers in:-		
935 Making of bricks, tiles, pottery, etc.	28,787	28,800
936 Making of glass, glass ware	11,992	10,000
937 Chemical and allied trades	54,173	45,600
938 Coke ovens and gas works	21,918	20,200
940 Metal working, engineering, electrical and allied trades	414,434	428,800
941 Textiles (not textile goods)	53,050	46,000
942 Treatment of other non-metalliferous mining products (not coal)	22,078	11,800
950 All other industrial and commercial undertakings	384,049	441,800
XXVII. OTHER AND UNDEFINED WORKERS	116,713	150,200
1. Workers in the distribution of gas, water and electricity (not elsewhere specified)	27,868	28,200
961 Inspectors, etc.	10,764	10,600
965 Other workers	17,104	17,600
2. Other workers	88,845	122,000
971 Foremen, overlookers (not elsewhere specified)	12,889	11,600
974 Other Civil Service officials (not clerks)	10,791	14,600
979 All other and undefined occupations	54,756	84,800
FEMALES		
TOTAL POPULATION	22,742,255	23,800,715
TOTAL POPULATION (aged 15 and over)	17,999,293	18,705,940
TOTAL OCCUPIED POPULATION (aged 15 and over)	6,272,876	7,045,400
I. FISHERMEN	27	-
II. AGRICULTURAL, HORTICULTURAL AND FORESTRY OCCUPATIONS	97,486	70,800
1. Agricultural and horticultural occupations	96,240	70,400
010 Farmers, farm managers	18,489	24,800
019 Other agricultural workers	70,226	39,000
III. MINING AND QUARRYING OCCUPATIONS	1,316	200
IV. WORKERS IN THE TREATMENT OF NON-METALLIFEROUS MINING PRODUCTS (OTHER THAN COAL)	46,356	40,200
1. Makers of bricks, tiles, pottery and fireclay goods	34,556	28,000
065 Pottery finishers and decorators	17,886	13,800
V. COAL, GAS AND COKE MAKERS, WORKERS IN CHEMICAL AND ALLIED TRADES	11,090	10,000
2. Workers in chemical and allied trades	11,090	10,000
VI. WORKERS IN METAL MANUFACTURE, ENGINEERING AND ALLIED TRADES	197,906	199,600
9. Metal machinists	17,551	13,400
16. Electrical apparatus makers and fitters (not elsewhere specified) and electricians	29,103	40,200
249 Other skilled electrical workers	15,327	26,800
17. Inspectors, viewers, testers	40,907	43,800
254 Electrical work	12,316	13,600
259 Other inspectors, viewers, testers	25,453	28,000
18. Other skilled workers	66,968	60,000
271 Press workers and stampers (not hot or hydraulic); drawers (not wire or tube)	42,707	39,000
VII. TEXTILE WORKERS	359,129	245,400
1. Openers, sorters, blenders, carders, combers, drawers	35,815	24,800
284 Carders, combers, other skilled preparing room workers	33,966	23,200
2. Spinners, doublers	44,359	29,400
291 Spinners, piecers	30,995	20,600
3. Winders, warpers, sizers, drawers-in	81,147	55,200
301 Winders, reelers	69,610	48,000
4. Weavers	97,156	50,000
311 Weavers (not carpets)	93,582	48,600
5. Knitters	27,892	28,800
321 Hosiery frame tenters and knitters	26,756	25,200
6. Bleachers, dyers, finishers	62,644	54,000
331 Lockers, examiners, burlers, menders	36,929	35,200
339 Other workers in bleaching, dyeing and finishing	15,992	14,200
VIII. TANNERS, ETC., LEATHER GOODS MAKERS, FUR DRESSERS	64,876	65,200
2. Boot and shoe makers	47,511	48,000
363 Closers	11,880	10,400
369 Other skilled workers	22,343	24,600
3. Makers of leather or substitute goods (not clothing)	13,437	13,000
IX. MAKERS OF TEXTILE GOODS AND ARTICLES OF DRESS (NOT BOOTS AND SHOES)	437,218	364,400
1. Garment workers	358,674	307,600
383 Tailors	52,763	31,600
385 Dressmakers and other light clothing makers	54,278	36,400
386 Machinists	179,895	173,800

Table 54 Comparison of 1951 and 1961 Census:
Occupation - continued

Occupation and Code number 1951	1951	1961
Females - continued		
IX. MAKERS OF TEXTILE GOODS AND ARTICLES OF DRESS (NOT BOOTS AND SHOES - continued)		
1. Garment workers - continued		
387 Pressers	19,108	15,800
389 Other skilled workers	28,989	29,000
3. Upholsterers, coach trimmers, bedding and mattress makers	18,801	19,400
401 Upholsterers, coach trimmers, etc.	12,892	13,000
4. Other makers	46,910	30,400
419 Other skilled workers	21,148	17,200
X. MAKERS OF FOODS, DRINKS AND TOBACCO	83,914	65,600
1. Makers of foods	60,879	43,400
422 Bakers and pastry cooks	25,308	15,600
439 Other skilled workers	20,800	14,200
4. Makers of tobacco, cigars, cigarettes, snuff	16,130	12,400
XI. WORKERS IN WOOD, CANE AND CORK	13,262	12,000
XII. MAKERS OF AND WORKERS IN PAPER AND PAPERBOARD; BOOKBINDERS, PRINTERS	81,058	84,400
2. Makers of stationery, bags and boxes; other workers in paper	31,135	33,400
512 Paperboard box makers (not elsewhere specified)	15,582	11,200
3. Printers, bookbinders	42,692	43,200
530 Bookbinders	16,079	13,600
XIII. MAKERS OF PRODUCTS (NOT ELSEWHERE SPECIFIED)	40,690	43,400
1. Workers in rubber	12,784	12,200
549 Other skilled workers	11,169	10,600
2. Workers in plastics moulding, manipulating, etc.	5,975	12,600
4. Makers of other products	21,353	17,800
579 Other skilled workers	13,606	14,000
XIV. WORKERS IN BUILDING AND CONTRACTING	1,390	1,000
XV. PAINTERS AND DECORATORS	10,388	9,200
XVI. ADMINISTRATORS, DIRECTORS, MANAGERS (NOT ELSEWHERE SPECIFIED)	45,859	67,600
611 Civil Service executive and higher clerical officers	12,956	13,800
614 Secretaries and registrars of companies, institutions and charities	8,369	16,200
615 Heads or managers of commercial and industrial office departments	6,232	12,600
XVII. PERSONS EMPLOYED IN TRANSPORT AND COMMUNICATIONS	130,101	147,600
2. Road transport workers	28,081	30,200
661 Bus and tram conductors	17,820	18,400
5. Other workers in transport and communications	93,586	108,600
705 Telephone operators	63,155	83,000
XVIII. COMMERCIAL, FINANCE AND INSURANCE OCCUPATIONS (EXCLUDING CLERICAL STAFF)	757,771	910,600
1. Commercial occupations	750,660	898,400
715 Commercial travellers, canvassers (not dock, insurance or railway)	5,836	11,200
Proprietors, managers of retail businesses for the sale of:-		
720 Grocery, provisions	30,582	36,000
721 Greengrocery	8,098	12,200
726 Confectionery, tobacco, newspapers	20,277	21,400
728 General and mixed businesses	18,366	16,400
729 Other non-food goods	64,691	86,600
Salesmen, shop assistants selling:-		
730 Grocery, provisions	126,174	136,800
731 Greengrocery	20,756	28,800
732 Meat	9,110	10,800
734 Other food goods	35,733	35,400
735 Chemists' wares, photographic goods	29,308	34,000
736 Confectionery, tobacco, newspapers	37,715	43,800
737 In variety chain stores	36,329	47,800
738 In other general and mixed businesses	24,921	46,400
739 Other non-food goods	220,322	258,200
749 Other commercial occupations	17,384	20,200
2. Persons employed in finance and insurance	7,111	12,200
XIX. PROFESSIONAL AND TECHNICAL OCCUPATIONS (EXCLUDING CLERICAL STAFF)	523,057	674,600
Nursing:-		
770 Trained nurses, midwives	130,179	149,600
771 Assistant nurses	14,913	40,200
772 Student nurses, probationer assistant nurses	45,723	59,200
773 Nursery nurses	19,055	11,400
Medical auxiliary services:-		
779 Others	12,780	20,800
Teaching:-		
785 Other teachers	182,409	253,800
Professional engineering, surveying and architecture:-		
799 Draughtsmen (not elsewhere specified)	12,251	15,400
Science:-		
804 Laboratory assistants, technicians (not elsewhere specified)	16,567	25,800
812 Librarians (not booksellers)	10,170	14,200
814 Social welfare workers	12,733	14,800
XX. PERSONS EMPLOYED IN DEFENCE SERVICES	19,668	13,600
1. Armed Forces	16,732	11,200
XXI. PERSONS PROFESSIONALLY ENGAGED IN ENTERTAINMENTS AND SPORT	21,739	21,800
XXII. PERSONS ENGAGED IN PERSONAL SERVICE (INCLUDING INSTITUTIONS, CLUBS, HOTELS, ETC.)	1,464,137	1,555,800
562 Proprietors and managers of restaurants	42,869	44,000
563 Lodging and boarding house keepers	32,312	16,600
565 Publicans, beersellers, innkeepers	17,253	19,200

Table 54 Comparison of 1951 and 1961 Census:
Occupation - continued

Occupation and Code number 1951	1951	1961
Females - continued		
XXII. PERSONS ENGAGED IN PERSONAL SERVICE (INCLUDING INSTITUTIONS, CLUBS, HOTELS, ETC.) - continued		
866 Barmen, barmaids	29,204	34,600
867 Waiters, waitresses, still room hands	80,860	89,800
868 Restaurant and refreshment room counter hands	28,725	35,000
870 Matrons (not hospital) and stewards in schools and other institutions	15,395	21,000
871 Hospital or ward orderlies, attendants	21,057	19,000
873 Barbers, hairdressers, manicurists	47,291	102,000
875 Caretakers, office keepers	18,237	18,600
876 Charwomen, office cleaners	215,336	317,400
877 Laundry workers	94,606	74,800
878 Dry cleaners, carpet cleaners	11,396	13,200
Domestic servants (indoor):-		
882 Chefs, cooks	121,960	95,800
883 Kitchen hands	170,560	176,000
884 Chambermaids, housemaids, parlourmaids	57,574	30,400
885 Other domestic servants (indoor)	373,480	330,000
888 Others in personal service	66,496	99,400
XXIII. CLERKS, TYPISTS, ETC.	1,270,456	1,725,400
890 Clerks (not elsewhere specified)	509,310	758,000
891 Shorthand typists, secretaries (not company secretaries)	380,209	461,800
892 Typists	114,782	188,200
894 Other office machine operators	69,908	113,000
895 Costing, estimating and accounting clerks (including book-keepers)	196,247	204,400
XXIV. WAREHOUSEMEN, STOREKEEPERS, PACKERS, BOTTLERS	181,196	213,600
902 Warehouse and storekeepers' assistants (so returned - not lace warehouse hands)	26,093	34,200
909 Other packers and bottlers (including wrappers, labellers, ticketers)	136,560	163,200
XXV. STATIONARY ENGINE DRIVERS, CRANE DRIVERS, TRACTOR DRIVERS, ETC., STOKERS, ETC.	1,976	1,800
XXVI. WORKERS IN UNSKILLED OCCUPATIONS (NOT ELSEWHERE SPECIFIED)	378,437	437,000
930 Assemblers (not elsewhere specified)	65,593	76,200
Machine minders:-		
931 Engineering and allied trades	58,882	70,200
932 Others	19,934	26,000
Labourers and other unskilled workers in:-		
937 Chemical and allied trades	11,712	11,800
940 Metal working, engineering, electrical and allied trades	57,667	65,000
941 Textiles (not textile goods)	40,810	31,600
950 All other industrial and commercial undertakings	113,723	149,800
XXVII. OTHER AND UNDEFINED WORKERS	32,373	64,600
2. Other workers	32,040	64,400
979 All other and undefined occupations	25,837	60,000

Comparison of Social Class Classification 1951-1961

The dual occupation coding of the 100,000 sub-sample mentioned on page 185 enabled a comparison to be made between the social class classifications used at the two censuses. The results for males are given in Table 55. It should be noted that in 1951 social class was based only on occupation whereas in 1961 employment status was also taken into consideration. The real changes between 1951 and 1961 are illustrated in Table 55 by comparing the results of the 1951 Census with the effect of applying the 1951 classification to the 1961 data. The proportion allocated to Social Class III hardly changed. There was a reduction in the proportions allocated to Social Classes IV and V and an increase in the proportions allocated to Social Classes I and II. Relatively large reductions in the number of agricultural workers and of coal miners made a large contribution to the decline in Social Class IV. In Social Class II there were large gains in the numbers of managers, teachers and draughtsmen and in Social Class I notable increases in the numbers of engineers.

Table 55 Comparison of 1951 and 1961 Census:
Social class - Economically active males (thousands)

England and Wales

Note: The 1961 figures in this table are based on a 1 in 200 sample.

		Total	Social class					
			I	II	III	IV	V	Not classified
1951 based on 1951 Classification	Number	14,063	452	2,010	7,513	2,272	1,816	
	Per cent	100.0	3.2	14.3	53.4	16.2	12.9	
Real changes	Number	586	206	398	330	-309	-39	
1961 based on 1951 Classification	Number	14,649	659	2,408	7,843	1,963	1,777	
	Per cent	100.0	4.5	16.4	53.5	13.4	12.1	
Changes due to 1961 Classification reassignment		3,331 -3,331	110 -165	397 -700	1,138 -1,422	1,553 -544	133 -500	
Not classified by Social Class in 1961			-34	-2	-266	-63	-153	518
1961 based on 1961 Classification	Number	14,649	569	2,103	7,293	2,909	1,257	518
	Per cent	100.0	3.9	14.4	49.8	19.9	8.6	3.5

Comparison of Socio-economic Group Classification 1951-1961

Owing to the change from a 13 group socio-economic classification in 1951 to a 17 group classification in 1961 it is not possible to make a full analysis of the changes between 1951 and 1961. Table 56 is restricted to comparing 1951 and 1961 for economically active males in terms of the 1951 classification. The decline in the agricultural workers and semi-skilled workers already noted in the section on Social Class is again apparent together with a decline in the armed forces and increases in the managerial and professional occupations. Details of the 1951 Socio-economic groups are given on page xi of the Census 1951 Occupation Tables.

This comparison between socio-economic groups is naturally subject to all the qualifications which have already been mentioned with respect to the comparison of occupations.

Table 56 Comparison of 1951 and 1961 Census:
Socio-economic group - Economically active males (thousands)

England and Wales

Note: The 1961 figures in this table are based on a 1 in 200 sample.

		Total	1. Farmers	2. Agricultural workers	3. Higher administrative, professional and managerial	4. Other administrative, professional and managerial	5. Shopkeepers (including propri- etors and managers of wholesale businesses)	6. Clerical workers	7. Shop assistants	8. Personal service	9. Foremen	10. Skilled workers	11. Semi-skilled workers	12. Unskilled workers	13. Armed Forces (other ranks)
1951 based on 1951 Classification	Number	14,063	273	688	452	1,286	496	689	477	308	474	5,075	1,578	1,782	485
	Per cent	100.0	1.9	4.9	3.2	9.1	3.5	4.9	3.4	2.2	3.4	36.1	11.2	12.7	3.4
1961 based on 1951 Classification	Number	14,649	275	456	660	1,616	576	807	568	333	532	5,378	1,427	1,758	263
	Per cent	100.0	1.9	3.1	4.5	11.0	3.9	5.5	3.9	2.3	3.6	36.7	9.7	12.0	1.8

PART III - SCOTLAND

Authority for the Census

Under the Census Act 1920 the responsibility for the taking of censuses of the population of Scotland is placed upon the Registrar General for Scotland who, for this purpose, is subject to the control of, and must comply with any directions given by, the Secretary of State for Scotland.

The Census Order 1960 (S.I. 1960 No. 1062), which provided for the taking of the 1961 Census on 23rd April 1961 and prescribed the particulars to be stated in the returns and the persons who had to make the returns, applied to Scotland as well as England and Wales. In addition to the particulars to be stated in both countries, the Order provided that returns made in Scotland should state the county of birth of persons born in Scotland. There was also provision for obtaining information about persons in Scotland able to speak Gaelic, just as in Wales there was provision for obtaining information about persons speaking Welsh.

The Census (Scotland) Regulations 1960 (S.I. 1960 No. 1176) detailed the arrangements for taking the census in Scotland and also contained facsimiles of the forms of returns to be made.

Comparability with England and Wales

In the past there have been criticisms that the census results for Scotland and for England and Wales were not comparable. Users have complained that they could not aggregate the published results to produce Great Britain figures. Although at most censuses an effort was made, so far as practicable, to agree upon a common list of questions, there was frequently a divergence of practice at the processing stage, with the result that some tables published in the English Reports did not appear in the same form in the Scottish Reports and *vice versa*. The disparity in the resources of the General Register Offices, the constitutional differences including the differences in the local government structure, and the fact that the tabulations for previous censuses had to be produced by manual means with the help, since 1911, of punch-card machinery, all contributed to this unsatisfactory state of affairs. It must also be borne in mind that it is in recent years only that the demand for comparability of results has emerged with any great force.

The advent of automatic data processing provided the opportunity and the facilities for ensuring that the differences in the form of the published results would be considerably reduced. It was decided at an early stage in the planning of the 1961 census that the Royal Army Pay Corps IBM 705 computer at Worthy Down should be used for the production of the statistics both for England and Wales and for Scotland. With the exception of the additional particulars referred to in paragraph 2 above, the same particulars were to be obtained throughout Great Britain, which made it possible to use the programmes prepared for the English data, with relatively few modifications to take account of Scottish needs. The result of these decisions was that, for the first time, the tabulations produced for England and Wales had their counterparts in the Scottish publications. Inevitably, however, there were differences both in methods of taking the censuses and in some of the published tables, which were dictated by the different needs and conditions in the countries concerned. The main differences are summarised below.

Preparations for the Census

The division of the country into census districts was undertaken at the Census Office in Edinburgh. With few exceptions the local registrars of births, deaths and marriages were appointed to act as Census Officers, and for convenience the boundaries of the census districts were made to coincide with the boundaries of the registration districts. Each Census Officer was given the task of planning the enumeration districts for his own area, roughly on the basis that enumeration districts in urban areas should each contain about 200 households; in rural and sparsely populated districts the number of households varied considerably and a high proportion of them contained fewer than 100 households. In the whole of Scotland there were some 950 census districts and 10,400 enumeration districts with corresponding numbers of Census Officers and Enumerators. There were no Census Advisory Officers in Scotland.

The instructions to the Census Officers and Enumerators differed in some respects from those issued in England and Wales but only where Scottish conditions made this necessary. The packs of household census schedules were compiled in the same way, a random starting number being allocated to each enumeration district to determine the position of the household schedule containing the full range of questions which was issued to one household in ten.

Forms of return

Subject to a few modifications designed to obtain the additional particulars referred to, the forms of return were similar to those used in England and Wales. For purposes of comparison a form S.10, which was the equivalent of form E.10 used in England and Wales, is included in this Report - Appendix H.

Map of Scotland

A map of Scotland showing the Cities, Counties and Regional Divisions is included as Appendix C.

Processing the results

The Preliminary Report on the 1961 Census was produced manually in Scotland from information received from the Census Officers soon after census day. For each enumeration district and for the census district as a whole, information was received about the numbers of persons, males, females, dwellings, households, Gaelic speakers, and children under the age of 15. Mark sense cards were not used in Scotland because of the fear of faulty marking of the cards by inexperienced enumerators and the risk of damage to the cards in transit. The provisional total population for Scotland as published in the Preliminary Report was only 854 fewer than the final figure, a difference of 0.02 per cent, or less than one person per census district. The Preliminary Report was published on the same day as the corresponding Report for England and Wales - 7th June 1961.

At the Census Office in Edinburgh the information on the census schedules was checked and coded and the data put on punch-cards which were transmitted to the computer centre at Worthy Down. The process thereafter was similar to that for the England and Wales punch-cards except that any edit queries had to be sent to Edinburgh for clearance there.

Production and Publication of Reports

The Reports on the Scottish results were similar in scope to those published in England and Wales with a few differences, of which the following are the most important:

- (a) A Gaelic Report was published as a counterpart to the Report on the Welsh Speaking Population.
- (b) The volume containing the Age, Marital Condition and General Tables contained an appendix on "errors in statements of age" giving the results of an investigation into the ages given by householders in one Scottish County.
- (c) The County Reports and the Birthplace and Nationality Report contained statistics on County of Birth which were not obtained in England and Wales. The latter Report contained the results of an enquiry which was made into the accuracy of the statements about County of Birth made by householders.
- (d) Commonwealth Immigrant tables were not published in Scotland as there were comparatively few such immigrants in the country at the time of the 1961 Census.
- (e) A publication entitled "Place Names and Population - Scotland" was roughly the equivalent of the "Index of Place Names" published for England and Wales. The Scottish volume contained the names and populations of some 8,000 places, most of which do not have legally defined boundaries.
- (f) Commentaries drawing attention to the more important statistics were included in the following Scottish Reports:
 - Vol. 1 - County Reports
 - Vol. 2 - Usual Residence
 - Vol. 3 - Age, Marital Condition and General Tables
 - Vol. 4 - Housing and Households, Parts I and II
 - Vol. 5 - Birthplace and Nationality
 - Vol. 7 - Gaelic
 - Vol. 8 - Internal Migration
 - Vol. 9 - Terminal Education Age
 - Vol. 10 - Fertility

No commentary was included in Vol. 6 - Occupation, Industry and Workplace.

Statistical Assessment

No separate statistical assessment has been made for Scotland, but most of the conclusions reached can be assumed to be equally valid for Scotland, subject to the following comments and reservations:

- (a) there was no Post-enumeration survey in Scotland;
- (b) much of "Part II, Chapter 2 - The ten per cent sample" is common to Scotland and England and Wales, but the figures for percentage errors due to bias relate to England and Wales only. Separate bias figures for Scotland were calculated and were published in the Scottish national volumes containing sample statistics;
- (c) "Part II, Chapter 4 - Census Processing and Quality of Data" relates to England and Wales but it can also be taken as applying in the main to Scotland. In the section on *assumed information*, the figures for the number of assumptions made are in respect of England and Wales.

Appendix A

Constitution of Standard Regions and Conurbations England and Wales

Standard Regions

The constitution of the Standard Regions of England and Wales used in this volume is as follows:-

Northern

Cumberland
Durham
Northumberland
Westmorland
Yorkshire North Riding

North Western

Cheshire
Derbyshire, Part of (1)
Lancashire

North Midland

Derbyshire, Part of (2)
Leicestershire
Lincolnshire
Parts of Holland
Parts of Kesteven
Parts of Lindsey
Northamptonshire
Nottinghamshire
Peterborough, Soke of
Rutland

Midland

Herefordshire
Shropshire
Staffordshire
Warwickshire
Worcestershire

Eastern

Bedfordshire
Cambridgeshire
Ely, Isle of
Essex, Part of (3)
Hertfordshire, Part of (4)
Huntingdonshire
Norfolk
Suffolk, East
Suffolk, West

London and South Eastern

Essex, Part of (5)
Hertfordshire, Part of (6)
Kent
London A.C.
Middlesex
Surrey
Sussex, East
Sussex, West

East and West Ridings

Yorkshire East Riding
Yorkshire West Riding

Southern

Berkshire
Buckinghamshire
Dorset, Part of (7)
Hampshire
Oxfordshire
Wight, Isle of

South Western

Cornwall
Devon
Dorset, Part of (8)
Gloucestershire
Somerset
Wiltshire

Wales I (South East)

Breconshire
Carmarthenshire
Glamorgan
Monmouthshire

Wales II (Remainder)

Anglesey
Caernarvonshire
Cardiganshire
Denbighshire
Flintshire
Merionethshire
Montgomeryshire
Pembrokeshire
Radnorshire

- (1) Buxton M.B., Glossop M.B., New Mills U.D., Whaley Bridge U.D. and Chapel en le Frith R.D.
- (2) All except the areas stated in (1) above.
- (3) All except East Ham C.B., West Ham C.B., Chingford M.B., Wanstead and Woodford M.B., Leyton M.B., Walthamstow M.B., Ilford M.B., Barking M.B., Dagenham M.B., Waltham Holy Cross U.D. and Chigwell U.D.
- (4) All except Barnet U.D., Bushey U.D., Cheshunt U.D., East Barnet U.D. and Elstree R.D.
- (5) All areas stated in (3) above.
- (6) All areas stated in (4) above.
- (7) Poole M.B. only.
- (8) All areas except Poole M.B.

Conurbations

The conurbation areas each consist of an aggregation of entire local authority areas and are constituted as follows:-

Tyneside

<i>Durham (part)</i>	<i>Northumberland (part)</i>	
Gateshead C.B.	Newcastle upon Tyne	Longbenton U.D.
South Shields C.B.	C.B.	Newburn U.D.
	Tynemouth C.B.	Wallsend M.B.
Felling U.D.		Whitley Bay M.B.
Hebburn U.D.	Gosforth U.D.	
Jarrow M.B.		
Whickham U.D.		

West Yorkshire

Yorkshire West Riding (part)

Bradford C.B.	Colne Valley U.D.	Ossett M.B.
Dewsbury C.B.	Denby Dale U.D.	Pudsey M.B.
Halifax C.B.	Denholme U.D.	Queensbury and Shelf
Huddersfield C.B.	Elland U.D.	U.D.
Leeds C.B.		Ripponden U.D.
Wakefield C.B.	Heckmondwike U.D.	Rothwell U.D.
	Holmfirth U.D.	
Aireborough U.D.	Horbury U.D.	Shipley U.D.
Baildon U.D.	Horsforth U.D.	Sowerby Bridge U.D.
Batley M.B.	Keighley M.B.	Spenborough M.B.
Bingley U.D.		Stanley U.D.
Brighouse M.B.	Kirkburton U.D.	
	Meltham U.D.	
	Mirfield U.D.	
	Morley M.B.	

South East Lancashire

<i>Cheshire (part)</i>	<i>Lancashire (part)</i>	
Stockport C.B.	Bolton C.B.	Kearsley U.D.
	Bury C.B.	Lees U.D.
Alderley Edge U.D.	Manchester C.B.	Littleborough U.D.
Altrincham M.B.	Oldham C.B.	
Bowdon U.D.	Rochdale C.B.	Little Lever U.D.
Bredbury and	Salford C.B.	Middleton M.B.
Romiley U.D.		Milnrow U.D.
Cheadle and	Ashton-under-	Mossley M.B.
Gatley U.D.	Lyne M.B.	Prestwich M.B.
Dukinfield M.B.	Audenshaw U.D.	
Hale U.D.	Chadderton U.D.	Radcliffe M.B.
Hazel Grove and	Crompton U.D.	Royton U.D.
Bramhall U.D.	Denton U.D.	Stretford M.B.
Hyde M.B.		Swinton and
Marple U.D.	Droylsden U.D.	Pendlebury M.B.
Sale M.B.	Eccles M.B.	Tottington U.D.
Stalybridge M.B.	Failsworth U.D.	
Wilmslow U.D.	Farnworth M.B.	Urmston U.D.
	Heywood M.B.	Wardle U.D.
Disley R.D.		Westhoughton U.D.
	Horwich U.D.	Whitefield U.D.
	Irlam U.D.	Whitworth U.D.
		Worsley U.D.

Merseyside

<i>Cheshire (part)</i>	<i>Lancashire (part)</i>	
Birkenhead C.B.	Ellesmere Port M.B.	Bootle C.B.
Wallasey C.B.	Hoylake U.D.	Liverpool C.B.
	Neston U.D.	
Bebington M.B.	Wirral U.D.	Crosby M.B.
		Huyton-with-Roby U.D.
		Litherland U.D.

Conurbations - continued

West Midlands

Staffordshire (part)

Smethwick C.B.
Walsall C.B.
West Bromwich C.B.
Wolverhampton C.B.

Aldridge U.D.
Amblecote U.D.
Bilston M.B.
Brierley Hill U.D.
Coseley U.D.

Darlaston U.D.
Rowley Regis M.B.
Sedgley U.D.
Tettenhall U.D.
Tipton M.B.

Wednesbury M.B.
Wednesfield U.D.
Willenhall U.D.

Warwickshire (part)

Birmingham C.B.
Solihull M.B.
Sutton Coldfield M.B.

Worcestershire (part)

Dudley C.B.
Halesowen M.B.
Oldbury M.B.
Stourbridge M.B.

Greater London

London

Middlesex

Essex (part)

East Ham C.B.
West Ham C.B.

Barking M.B.
Chigwell U.D.
Chingford M.B.
Dagenham M.B.
Ilford M.B.

Leyton M.B.
Waltham Holy Cross
U.D.
Walthamstow M.B.
Wanstead and
Woodford M.B.

Hertfordshire (part)

Barnet U.D.
Bushey U.D.
Cheshunt U.D.
East Barnet U.D.
Elstree R.D.

Kent (part)

Beckenham M.B.
Bexley M.B.
Bromley M.B.
Chislehurst and
Sidcup U.D.
Crayford U.D.
Erith M.B.
Orpington U.D.
Penge U.D.

Surrey (part)

Croydon C.B.

Banstead U.D.
Barnes M.B.
Beddington and
Wallington M.B.
Carshalton U.D.

Coulsdon and
Purley U.D.
Epsom and Ewell M.B.
Esher U.D.

Kingston-upon-
Thames M.B.
Malden and Coombe M.B.
Merton and Morden U.D.
Mitcham M.B.

Richmond M.B.
Surbiton M.B.
Sutton and Cheam M.B.
Wimbledon M.B.

Urban and Rural Aggregates

Urban and rural aggregates relate to groups of local authority areas by type (all those within conurbations, urban areas, rural districts) and, in the case of urban areas, by size of their resident population as estimated at Census Day (23rd April 1961). "Urban Areas" include boroughs and urban districts as defined under the Local Government Acts, and rural districts are also as defined by those Acts.

Conurbation Centre

In each of the conurbations, apart from the West Yorkshire conurbation, a central area has been identified. This central area has been defined as that containing the principal concentration of administrative and commercial offices, major shopping streets, theatres, cinemas and dance halls, public buildings, hotels, special areas and precincts (e.g. university, cathedral and legal) and main railway and coach termini. It is characterised by relatively low residential population, by a large concentration of employment, involving journey to work, and often by traffic congestion and car parking problems. The areas corresponding to this definition have been specified in consultation with the Ministry of Housing and Local Government, the local planning authorities and interested university departments. A map was included in each relevant county volume.

Scotland

Regional Divisions and Subdivisions

The constitution of the four regional divisions and subdivisions as adopted for census tabulation purposes is:-

East Central Division

The cities of Dundee and Edinburgh, and the counties of Fife, Clackmannan, Stirling, West Lothian, Midlothian and East Lothian.

West Central Division

- (a) The Central Clydeside Conurbation comprising the city of Glasgow and parts of the counties of Dunbarton, Lanark and Renfrew (see Conurbations).
- and (b) Remainder, comprising the entire county of Ayr and the remainders of the counties of Dunbarton, Lanark and Renfrew.

Northern Division

- (a) Crofting Counties, comprising the counties of Zetland, Orkney, Caithness, Sutherland, Ross and Cromarty, Inverness and Argyll.
- and (b) Remainder, comprising the city of Aberdeen, and the counties of Nairn, Moray, Banff, Aberdeen, Kincardine, Angus, Kinross, Perth and Bute.

Southern Division

- (a) Border Counties, comprising the counties of Berwick, Peebles, Roxburgh and Selkirk.
- and (b) Remainder, comprising the counties of Dumfries, Kirkcudbright and Wigtown.

Conurbation

The Central Clydeside Conurbation - the only conurbation in Scotland - is an aggregation of entire local authority areas and is constituted as follows:-

Dunbarton County (part of)	Lanark County (part of)	Renfrew County (part of)
Bearsden Burgh	Airdrie Burgh	Barrhead Burgh
Clydebank Burgh	Coatbridge Burgh	Johnstone Burgh
Kirkintilloch Burgh	Hamilton Burgh	Paisley Burgh
Milngavie Burgh	Motherwell and Wishaw Burgh	Renfrew Burgh
	Rutherglen Burgh	Renfrew First District of County
Glasgow County of City	Lanark Fifth District of County	Renfrew Second District of County
	Lanark Sixth District of County	
	Lanark Eighth District of County	
	Lanark Ninth District of County	

Burghal/Landward Aggregates. These comprise:-

- (1) The conurbation; and
- (2) Outside the conurbation -
 - (a) Burghal areas with populations of 100,000 or more
 - (b) Burghal areas with populations of 10,000 and less than 100,000
 - (c) Burghal areas with populations of less than 10,000
 - (d) Landward areas.

Landward area

This term means the non-burghal part of a county, i.e. it excludes any city, or large or small burgh.



Appendix C



STATUTORY INSTRUMENTS

1960 No. 1062

CENSUS

The Census Order, 1960

Laid before Parliament in draft

Made - - - - 23rd June, 1960

At the Court at Buckingham Palace, the 23rd day of June, 1960

Present,

The Queen's Most Excellent Majesty in Council.

Whereas a draft of this Order was laid before Parliament in accordance with the provisions of subsection (2) of section 1 of the Census Act, 1920(a) (hereinafter referred to as "the Act of 1920"), and both Houses of Parliament have by resolution approved so much of the Order as prescribes particulars with respect to the matters mentioned in paragraph 6 of the Schedule to the Act of 1920:

Now, therefore, Her Majesty, in exercise of the powers conferred upon Her by subsection (1) of section 1 of the Act of 1920 and of all other powers enabling Her in that behalf, is pleased, by and with the advice of Her Privy Council, to order, and it is hereby ordered as follows:-

Citation and Interpretation

1.- (1) This Order may be cited as the Census Order, 1960.

(2) The Interpretation Act, 1889(b), applies to the interpretation of this Order as it applies to the interpretation of an Act of Parliament.

(3) In this Order "prescribed" means prescribed by regulations made under the Act of 1920.

Taking of the Census

2. A Census shall be taken for Great Britain on the 23rd day of April, 1961 (in this Order referred to as "the Census day") in respect of -

(a) all persons in Great Britain; and

(b) all other persons (being persons usually resident in Great Britain) to whom paragraph (b) of article 1 or article 5 of the first column of the first schedule to this Order refer;

who are alive at midnight ending that day.

Persons with respect to whom and by whom returns are to be made

3. The returns for the purposes of the Census shall be made with respect to the classes of persons mentioned in the first column of the first schedule to this Order by the persons mentioned opposite each such class in the second column of that schedule:

Provided that any person claiming in the prescribed manner to make a confidential return shall, subject to the prescribed conditions, be deemed to be the person by whom the return is to be made with respect to himself.

Particulars to be stated in the returns

4.- (1) In the case of all persons with respect to whom returns are to be made, the returns shall state the particulars specified in Parts I and II of the second schedule to this Order:

(a) 10 & 11 Geo. 5. c. 41.

(b) 52 & 53 Vict. c. 63.

Provided that-

- (a) the Registrar General may pursuant to regulations made under the Act of 1920 give or authorise the giving of instructions with a view to securing that the particulars specified in Part II of the second schedule to this Order are furnished for approximately one tenth only of the population;
 - (b) in the case of the persons mentioned in paragraph (b) of article 1 of the first column of the first schedule to this Order the returns shall, subject to proviso (a) of this paragraph, state the particulars specified in articles 1 to 5 and 7 of Part I and paragraph (a), sub-paragraph (1) of paragraph (b) and paragraphs (c) and (d) of article 1 of Part II of the second schedule to this Order and shall state also their place of abode at midnight ending the Census day.
- (2) In the case of all persons, other than persons mentioned in paragraph (b) of article 1 of the first column of the first schedule to this Order, with respect to whom returns are to be made in Scotland, the returns shall state the additional particulars specified in Part III of the second schedule to this Order.
- (3) In the case of all persons, other than persons mentioned in paragraph (b) of article 1 of the first column of the first schedule to this Order, with respect of whom returns are to be made in Wales (including Monmouthshire), the returns shall state the additional particulars specified in Part IV of the second schedule to this Order.

W. G. Agnew.

FIRST SCHEDULE

*Persons with respect to whom
returns are to be made*

*Persons by whom returns
are to be made*

1.-(a) Persons present at midnight ending the Census day in a dwelling (including a caravan or other temporary dwelling), lodgings or rooms, separately occupied by any private household of which they are members, guests (including paying guests or boarders), or employees.

1. The head, or person for the time being acting as the head, of the household.

(b) Persons usually resident in any such dwelling, lodgings or rooms but temporarily absent therefrom at midnight ending the Census day.

2. Persons present at midnight ending the Census day on the premises of any hotel, boarding-house, or common or other lodging-house.

2. The manager or other person for the time being in charge of the premises.

3. Persons present at midnight ending the Census day on the premises of any hospital, nursing home, religious or charitable community, residential school or college, civil prison, lock-up or other place of detention, remand home or approved school or any residential establishment whatsoever not being an establishment mentioned elsewhere in this schedule.

3. The chief resident officer or other person for the time being in charge of the hospital, house, home, community, school, college, prison, remand home, approved school or establishment.

4. Persons belonging to the naval, military, or air forces of the Crown, and any other persons, present at midnight ending the Census day on any vessel or in any barracks, station, or other premises under naval, military, or air force discipline or on any premises in respect of which the Registrar General is satisfied that on grounds of security special arrangements ought to be made.

5. Persons present at midnight ending the Census day-

- (a) on any ship, boat, barge, or other vessel in any inland waters or engaged in any coast-wise or fishing voyage, or lying moored or anchored in any place, or
- (b) on any British ship voyaging between Great Britain and Northern Ireland or the Isle of Man or the Channel Islands.

6. Persons who, not having been enumerated elsewhere for the purpose of the Census otherwise than under paragraph (b) of article 1 of this schedule, arrive at any of the places or premises above mentioned after midnight ending the Census Day and before the returns in respect of persons present on or in such premises or places are required to be delivered up.

7. Persons not included among any of the classes of persons above mentioned.

4. The officer or other person appointed for the purpose in pursuance of arrangements made by the Admiralty, Army Council, Air Council or the Department concerned.

5. The captain, master, or other person for the time being in charge of the vessel.

6. The person specified above as the person by whom the returns are to be made with respect to the persons present at midnight ending the Census day on or in any of the premises or places above mentioned.

7. The person with respect to whom the return is to be made.

SECOND SCHEDULE

Part I

Particulars to be stated in all returns

1. Full name.
2. Relation to head of family or other person by whom the return is to be made.
3. Sex.
4. Age in years and months.
5. In respect of each person aged 16 years or over, whether single, married, widowed or divorced and not re-married.
- 6.-(a) In respect of each married woman or woman who has ever been married -
 - (i) whether married more than once;
 - (ii) the date of her first or only marriage;
 - (iii) if that marriage has been terminated, the date of termination;
 - (iv) the date of her present marriage (if married more than once);
 - (v) the number of children born in marriage;
- (b) in respect of each married woman, whether she has given birth to a child in marriage during the year commencing 24th April, 1960.

7. Usual residence.
8. Place of birth, stating the name of the country or whether born at sea.
9. If born outside the United Kingdom, stating -
 - (a) if a Commonwealth citizen, country of citizenship;
 - (b) if a citizen of the United Kingdom and Colonies, whether a citizen by birth, descent, registration, naturalisation or otherwise;
 - (c) if not a Commonwealth citizen, nationality.
- 10.-(a) Number of living rooms dwelt in by the persons in respect of whom particulars are included in the return;
- (b) whether the dwelling in which such rooms are situated is -
 - (i) in a building which contains only one dwelling and is
 - (a) wholly residential, or
 - (b) not wholly residential,
 - (ii) in a building which contains two or more dwellings;
- (c) whether such dwelling, or any part of it occupied by the persons in respect of whom particulars are included in the return, is owned by any person usually residing therein and, if not, whether the dwelling or part is -
 - (i) occupied by virtue of employment, or
 - (ii) rented as part of, or together with other premises used by the tenant for the purpose of gaining his livelihood, or
 - (iii) rented from a local authority or new town development corporation otherwise than under sub-paragraphs (i) or (ii) of this paragraph, or
 - (iv) rented from any other person or body otherwise than under sub-paragraphs (i) or (ii) of this paragraph, and if so, whether rented furnished or unfurnished, or
 - (v) otherwise separately occupied and, if so, stating the terms on which it is occupied.
- (d) whether the persons living in such dwelling, or any part of it, have exclusive use or shared use of a piped cold water supply or a piped hot water supply, a watercloset, a fixed bath within the building.
- (e) whether the persons in a household sharing such dwelling with another household have exclusive use or shared use of a kitchen sink and fixed cooking stove or range.

Part II

Additional particulars to be stated in selected returns

1. In respect of persons aged 15 years or over -
 - (a) profession, trade, manufacture, service or other occupation during the week preceding the Census day, stating the precise branch and, if occupied in trade or manufacture, stating the particular kind of work done, of material worked in and of article, if any, made or dealt in;
 - (b) if in employment at any time during that week (not being persons who during that week retire or otherwise cease to be employed and do not take up further employment), stating -
 - (i) name and business of the principal employer and whether engaged as an apprentice or articted pupil or, if self-employed, whether or not others are employed for the purposes of the profession, trade or calling, and
 - (ii) the address of the place of work or whether working at no regular place of work or whether the work is carried on mainly at home, and
 - (iii) whether working whole-time or part-time and, if part-time, the number of hours worked during that week, and

- (iv) for persons of the male sex working part-time, the particulars specified at paragraph (a) of this article with regard to the last whole-time employment, if any, and the name and business of the employer in that employment or particulars as to self-employment, as the case may be:

Provided that where a person changes his employment during that week the particulars mentioned at paragraph (a) and sub-paragraphs (i), (ii) and (iii) of paragraph (b) shall relate to his employment at the end of that week;

- (c) if out of employment during the whole of that week or ceasing to be employed without taking up any further employment during that week, stating -
- (i) whether seeking employment, or
 - (ii) whether intending to seek employment but unable to do so throughout the week because of sickness or other incapacity, and
 - (iii) name and business of employer in last whole-time employment, if any, or particulars as to self-employment, as the case may be, and the particulars specified at paragraph (a) of this article with regard to that employment;
- (d) if wholly retired, or retiring during that week, stating the particulars of the last whole-time employment as specified in sub-paragraph (iii) of paragraph (c) of this article.

2. In respect of all persons who have ceased to receive full-time education in an educational establishment, the age at which such education ceased.

3. In respect of persons with qualifications in science or technology, the qualifications held and the main branch of science or technology in which the qualifications were obtained.

4. In respect of persons whose usual residence on the 23rd April, 1960, was the same as on Census day, the number of years they have lived at that address; in respect of other persons their usual residence on the 23rd April, 1960.

Part III

Additional particulars to be stated in returns made in Scotland

1. In respect of persons aged 3 years or over, whether speaking Gaelic only or able to speak both Gaelic and English.
2. In respect of persons born in Scotland, the county in which they were born.
3. In respect of any dwelling or part of a dwelling occupied in Scotland whether the dwelling or part is rented from the Scottish Special Housing Association, the Scottish National Housing Company Limited or the Second Scottish National Housing Company (Housing Trust) Limited.

Part IV

Additional particulars to be stated in returns made in Wales (including Monmouthshire)

1. In respect of persons aged 3 years or over, whether speaking Welsh only or able to speak both Welsh and English.

EXPLANATORY NOTE

(This Note is not part of the Order, but is intended to indicate its general purport.)

The Order provides for the taking of a census of the population of Great Britain on 23rd April, 1961. The Order specifies the persons by whom and with respect to whom the census returns are to be made and sets out the particulars to be stated in the returns. The Registrar General is empowered to arrange that the information specified in Part II of the second schedule to this Order is obtained from approximately one tenth only of the population.



BEFORE YOU ANSWER EACH QUESTION PLEASE READ CAREFULLY THE COLUMN HEADING AND THE NOTES FOR THAT COLUMN AND THE EXAMPLES ON THE BACK OF THIS FORM.

PLEASE WRITE IN INK.

STRICTLY
CONFIDENTIAL

Include in this schedule all persons who are alive at midnight on Sunday, 23rd April, 1961 (Census Night), and who spend the night in this household. If anyone who has not been enumerated elsewhere arrives the next day, include him or her also.

Write in this column the names and surnames of all the persons to be included before you go on to the other columns. See Note 1.

Babies should be included. If they have not been given a name, write "Baby" and the surname.

Relationship to the head of the household.

e.g. Head, Wife, Son, Visitor, Visitor's Wife, Boarder, Employee.

If this dwelling is the person's usual address, write "Here";

if not write the more usual address in full.

See Note 2.

Sex "M" or "F" and Age in years at last birthday and completed months since then.

See Note 3.

Persons 18 years or over. Write "Single", "Married", "Widowed" or "Divorced" or "Divorced". See Note 4.

All married, widowed or divorced women.

Write at (i) the total number of children born alive to her in marriage.

See Note 5.

Were any of these children born after 23rd April, 1960? Write "Yes" or "No" at (ii).

All married women.

Write at (i) the date of her present marriage.

Has she been married more than once? Write

"Yes" or "No" at (ii). If "Yes" fill in column H

Widowed or divorced women; OR women married more than once.

Write at (i) the date of first or only marriage.

Write at (ii) the date when that marriage ended. See Note 6.

Country of birth

If born in Great Britain write "England", "Scotland", or "Wales", whichever applies. See Note 7.

If born in Ireland write "Northern Ireland" or "Irish Republic". If born elsewhere give the country of birth, e.g. Trinidad, Poland, or write "At Sea".

For persons NOT born in Great Britain or Northern Ireland

See Note 8.

(a) If a citizen of the Commonwealth state at (i) citizenship, e.g. United Kingdom and Colonies, Indian, Canadian.

(b) If a citizen of the U.K. and Colonies state at (ii) whether citizen by birth, descent, naturalisation, registration, marriage, etc.

(c) For other persons state at (i) nationality, e.g. Italian, Polish, Yugoslav.

State how this household occupies its accommodation (house, flat, rooms, etc.) by writing "Yes" at (a), (b), (c), (d), or (e), or by giving details at (f).

See Note 9.

(a) As owner-occupiers (including purchase by mortgage)

(b) By renting it with a farm, shop or other business premises

(c) By virtue of employment

(d) By renting it from the Council or New Town Corporation

(e) By renting it from another landlord—furnished or unfurnished

(f) In some other way—please give details.

Has this household the use of the following in the building? Write "Sole use" if used only by this household, or "Shared" if shared with another household, or "None". See Note 10.

(a) Cold water tap

(b) Hot water tap

(c) Fixed bath

(d) Watercloset (in the building or attached to it)

Information to be given to the enumerator

Whether sharing stove and sink in shared dwellings

Number of rooms

Number of Persons

Males

Females

Schedule No.

Declaration to be made by the head of the household or other person making the return

I declare that this schedule is correctly filled up to the best of my knowledge and belief (Signature)

NOTES

CONFIDENTIALITY.

No information about any individual person, family or dwelling, will be given to anyone not employed on the Census.

1. Names and Surnames (Column A)

- (a) Names are wanted only to help in taking the Census.
- (b) Write first the name of the head of the household (if present) or acting head and then the names of relatives, visitors, boarders, employees, etc.
- (c) If a husband and wife are both present on Census Night write their names on consecutive lines.

2. Usual Address. (Column C)

- (a) **School Children, Students, etc.,** who live away from home during term should give their home address, not their term-time address.
- (b) **Members of H.M. Forces** should give the address of their married quarters or other home address.
- (c) **Resident Staff** should regard the private house, boarding house, or other premises where they live as their usual address.

- (d) For persons with no settled address write "None".
- (e) For **boarders** who have a settled residence with this household write "Here".

3. Age. (Column D)

- (a) If the age is not known exactly, give it as accurately as possible.
- (b) Even where the birthday is only a few days after Census day, the required age is the number of years at the last birthday and 11 months.
- (c) For babies under one month old write "Under 1 month".

4. Marriage, etc. (Column E)

If a person is legally separated, not divorced, write "Married".

5. Children. (Column F)

Include in the number of children born alive to the mother in marriage, any children of a previous marriage and any that have died.

6. End of first marriage. (Column H)

Write at (ii) the date of her first or only husband's death or date of divorce.

7. Country of Birth. (Column J)

For the purposes of the Census, persons born in Monmouthshire should write "Wales"

8. Citizenship or Nationality. (Column K)

- (a) For citizens of the Irish Republic write "Irish".
- (b) For British protected persons give the protectorate or trust territory, e.g. Uganda, Tanganyika.

9. Ownership and Renting. (Panel L)

Leaseholds. If the household occupy their house, flat, etc. on a lease which was originally granted for more than 21 years, or has since been extended for more than 21 years, write "Yes" at (a). For shorter leases answer one of the other parts of the question in Panel L.

By virtue of Employment. If the accommodation is provided in connection with the employment of a member of the household and ceases to be provided after the employment comes to an end (e.g. a tied cottage, caretaker's flat) write "Yes" at (c) whether rent is paid or not.

10. Household Arrangements. (Panel M)

- (a) **Cold water tap.** This refers to a tap within the building. It does not include a tap in an open yard or a public standpipe. If only the latter are available, the answer "None" should be given.
- (b) **Hot water tap.** This means water piped to any form of heating appliance which will allow hot water to be drawn from a tap within the building, e.g. a boiler, tank with immersion heater, geyser, or sink heater.
- (c) **Fixed bath.** This means a bath permanently installed with a waste pipe leading outside the building. It does not matter for this purpose whether there is water piped to it or whether the room where it is installed is used only as a bathroom or not.
- (d) **Watercloset.** This means any watercloset emptying into a main sewer, septic tank or cesspool. It does not include a chemical closet or earth closet. It must be within the building or attached to it.

e.g., For a household which shares the use of a fixed bath and watercloset, and has the sole use of the cold water supply but has no hot water supply the entries would be:—

- (a) Cold water tap—Sole use.
- (b) Hot water tap—None.
- (c) Fixed bath—Shared.
- (d) Watercloset—Shared.



CENSUS, ENGLAND, 1961
E. 90

SCHEDULE

Prescribed by Regulations under the Census Act, 1920, as the form to be used for approximately nine tenths of the population in England (excluding Monmouthshire), for the purpose of returns in respect of (a) Private Households, and (b) Other persons in respect of whom no other form of schedule is prescribed.

For Enumerator's Use	
Census District No.	Enumeration District No.
Name and postal address of householder or other person responsible for making the return.	

NOTICE

1. The Head, or person acting as Head, of a private Household is required by law to make a return in this form in respect of all persons (members of the household, including visitors, employees and boarders) who are present at midnight on the night of Sunday, 23rd April, 1961, in the dwelling, and all persons who arrive at the dwelling and join the household on Monday, 24th April, 1961, before the collection of the schedule, and who have not been enumerated elsewhere.

Note.—Any one or more persons separately occupying a house or part of a house, flat, apartment, etc., will be regarded as a separate household for Census purposes. Persons who usually have at least one meal a day provided by the household while in residence will be regarded as part of the household.

2. Every person is required by law to give to the person responsible for making the return such information as may be necessary to enable the return to be made. No use may, however, be made of such information by the person to whom it is given except for the purpose of making the return.

3. A person who has applied in the prescribed manner to make a separate confidential return will not be liable to give information to the Head; and in such case the person responsible for making the return will only be liable to include in his return in respect of that person the particulars required in Columns A and B within.

4. The schedule will be called for on **MONDAY, 24th APRIL**, by the appointed enumerator; in order that he may not be delayed it must be ready with the answers written in the proper columns early on the morning of that day. If the answers appear to be incomplete or inaccurate, the enumerator must ask any questions necessary to enable him to correct the schedule.

5. The person responsible for making the return may, if unable to deliver the schedule to the enumerator personally, arrange for some other person to do so on his behalf. If desired, the schedule may be handed to the enumerator under cover.

6. If any person whose duty it is to make a return or to give information refuses to do so, or wilfully gives false information, or uses otherwise than for the purpose of making the return any information given him for that purpose, he will be liable to a fine not exceeding **Ten Pounds**.

7. The contents of the schedule are strictly confidential.

E. M. T. FIRTH,
Registrar General.

EXAMPLES OF COMPLETED SCHEDULES

1st Example

Name and Surname	Relationship	Usual residence	Sex: Age	Single, Married, etc.	Children	Date of Marriage	Previous Marriage	Country of birth	Nationality
A	B	C	D	E	F	G	H	J	K
George White	Head	Here	M 52	Married	—	—	—	England	—
Freda White	Wife	Here	F 51	Married	(i) 1	(i) 2nd April, 1938	—	England	—
Anne White	Daughter	Here	F 20	Single	—	—	—	England	—
Colin G. O'Leary	Visitor	2, Bridge Street, Cork, Eire.	M 40	Married	—	—	—	Irish Republic	(i) Irish

2nd Example

Name and Surname	Relationship	Usual residence	Sex: Age	Single, Married, etc.	Children	Date of Marriage	Previous Marriage	Country of birth	Nationality
A	B	C	D	E	F	G	H	J	K
John D. Spencer	Head	Here	M 50	Married	—	—	—	Wales	—
Simone Spencer	Wife	Here	F 42	Married	(i) 1	(i) 3rd April, 1956	(i) 9th May, 1940	France	(i) U.K. and Colonies
Paul M. Le Sage	Stepson	8 Rue de Paris, Versailles	M 19	Single	—	—	(ii) 6th June, 1950	France	(ii) By registration
Francis E. Lee	Visitor	301, Kings Row, Clapham, London, S.W.11	M 23	Single	—	—	—	England	(i) French
Emma Clark	Employee	Here	F 54	Widow	(i) None	—	(i) 1st March, 1939 (ii) 2nd April, 1942	England	—

3rd Example

Name and Surname	Relationship	Usual residence	Sex: Age	Single, Married, etc.	Children	Date of Marriage	Previous Marriage	Country of birth	Nationality
A	B	C	D	E	F	G	H	J	K
Mary Barnes	Head	Here	F 21	Single	—	—	—	England	—
Jill Reed	Friend sharing	Here	F 20	Single	—	—	—	Jamaica	(i) U.K. and Colonies, (ii) By birth

4th Example

Name and Surname	Relationship	Usual residence	Sex: Age	Single, Married, etc.	Children	Date of Marriage	Previous Marriage	Country of birth	Nationality
A	B	C	D	E	F	G	H	J	K
Grace Foster	Acting Head	Here	F 49	Married	(i) 2	(i) 1st May, 1930	—	England	—
Robert Foster	Son	Here	M 25	Married	—	—	—	England	—
Sylvia Foster	Daughter-in-law	Here	F 21	Married	(i) 1	(i) 2nd January, 1960	—	England	—
Baby Foster	Grandson	Here	M Under 1 month	—	—	—	—	Germany	(i) U.K. and Colonies, (ii) By descent.
Ellis Hughes	Boarder	Here	M 30	Married	—	—	—	Wales	—
Janet Hughes	Boarder's wife	Here	F 29	Married	(i) None	(i) 2nd Nov., 1955	—	Scotland	—

Start on other side.

PART II FOR PERSONS AGED 15 AND OVER		Fill in ONE of the Sections R, S or T for every person aged 15 and over									
		R For persons who in the week ending 22nd April, 1961, were in employment at any time (including any part-time or casual employment), whether or not actually at work, fill in this section in respect of that employment. If the person became unemployed or retired during the week do not fill in this section, but fill in Section S. See Note 16.					S For persons who, at the end of the week ending 22nd April, 1961, were not in employment but intending to get work or wholly retired, fill in this section in respect of the last full-time employment. See Note 18.			T For other persons	
Please repeat here the names of the persons aged 15 years or over in the same order as you have written them overleaf.	Persons with qualifications in science and technology. See Note 13. State at (i) the academic and/or professional qualifications held. State at (ii) the main branch of science or technology in which the qualifications are held.	State the name and business of the employer but if self-employed write either "self-employed employs others" or "self-employed without employees", and also the nature of the business: if a trading name is used give that name as well. See Notes 16, 19, 20 and 23.	For the employment given in column (a) give at (i) the precise occupation, showing where appropriate the material worked or dealt in, and for workers at mines whether employed mainly above or below ground. See Note 21. If applicable write at (ii) "Apprentice", "Learner" (only if in skilled craft), "Articled Pupil", "Student Apprentice", "Graduate Apprentice", or "Management Trainee". See Note 22.	State the full postal address of the place of work. (For transport workers, building workers, dockers, seamen and persons with no regular place of work, see Note 24.) If the work is carried on mainly at home write "at home".	State at (i) whether this employment was full-time or part-time. See Notes 15 and 17. If part-time state at (ii) the number of hours, excluding meal breaks, worked in this employment during the week ending 22nd April, 1961. See Note 15.	MALES ONLY If you have written "part-time" in column (d) give details of the last full-time employment, showing at (i) the business of the employer or details of self-employment and at (ii) the occupation.	Write "Wholly retired" or "Out of work" or, if out of work and sick or injured for the whole week, write "Out of work, sick".	State the name and business of the last full-time employer but if self-employed write either "self-employed employs others" or "self-employed without employees", and also the nature of the business: if a trading name is used give that name as well. See Notes 16, 19, 20 and 23.	For the employment given in column (g), give the precise occupation, showing where appropriate the material worked or dealt in, and for workers at mines whether employed mainly above or below ground. See Note 21.	Write "Housewife", "Home duties", "at school", "Student", etc. as applicable.	

PART III PERSONS ABSENT FROM THIS HOUSEHOLD (If no one is absent write "NONE" in column A below)					FILL IN ONE OF THE SECTIONS BELOW FOR EACH PERSON ABSENT AND AGED 15 YEARS AND OVER —See Note 14.				
Write here the names and surnames of all persons usually living in this household, who are absent on Census Night, except those arriving next day who have been included in Part I. See Note 25.		Relationship to the head of the household. e.g. Head, Wife, Son, Boarder, Boarder's wife, Employee.	Sex "M" or "F" and Age in years at last birthday and completed months since then. See Note 3.	Persons 16 years or over. Write "Single", "Married", "Widowed", or "Divorced". See Note 4.	Place of abode on Census Night: if abroad give the name of the country.	R For persons who in the week ending 22nd April, 1961, were in employment, whether or not actually at work, fill in this section in respect of that employment.	S For persons who at the end of the week ending 22nd April, 1961, were not in employment but intending to get work or wholly retired, fill in this section in respect of the last full-time employment.	T For other persons.	
A	B		Sex: Years Months			a State the name and business of the employer etc. (See the heading of Section R, column (a), in Part II above.) b For the employment given in column (a) state the precise occupation etc. (See the heading of Section R, column (b), in Part II above.)	f Write "Wholly retired" or "Out of work". g State the name and business of the last full-time employer etc. (See the heading of Section S, column (g), in Part II above.) h For the employment given in column (g) give the precise occupation etc. (See the heading of Section S, column (h), in Part II above.)		
			Sex: Years Months						
			Sex: Years Months						

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CENSUS, ENGLAND, 1961

E.I.O

SCHEDULE

Prescribed by Regulations under the Census Act, 1920, as the form to be used for approximately one tenth of the population in England (excluding Monmouthshire), for the purpose of returns in respect of (a) Private Households, and (b) Other persons in respect of whom no other form of schedule is prescribed.

For Enumerator's Use

Census District No.	Enumeration District No.
Name and postal address of householder or other person responsible for making the return	

NOTICE

1. The Head, or person acting as Head, of a private Household is required by law to make a return in this form in respect of all persons (members of the household, including visitors, employees and boarders) who are present at midnight on the night of Sunday, 23rd April, 1961, in the dwelling, and all persons who arrive at the dwelling and join the household on Monday, 24th April, 1961, before the collection of the schedule, and who have not been enumerated elsewhere, and all other persons normally living in this dwelling.

Note. Any one or more persons separately occupying a house or part of a house, flat, apartment, etc., will be regarded as a separate household for Census purposes. Persons who usually have at least one meal a day provided by the household while in residence, will be regarded as part of the household.

2. Every person is required by law to give to the person responsible for making the return such information as may be necessary to enable the return to be made. No use may, however, be made of such information by the person to whom it is given except for the purpose of making the return.

3. A person who has applied in the prescribed manner to make a separate confidential return will not be liable to give information to the Head; and in such case the person responsible for making the return will only be liable to include in his return in respect of that person the particulars required in Columns A and B within.

4. The schedule will be called for on MONDAY, 24th April, by the appointed enumerator; in order that he may not be delayed it must be ready with the answers written in the proper columns early on the morning of that day. If the answers appear to be incomplete or inaccurate, the enumerator must ask any questions necessary to enable him to correct the schedule.

5. The person responsible for making the return may, if unable to deliver the schedule to the enumerator personally, arrange for some other person to do so on his behalf. If desired, the schedule may be handed to the enumerator under cover.

6. If any person whose duty it is to make a return or to give information refuses to do so, or wilfully gives false information, or uses otherwise than for the purpose of making the return any information given him for that purpose, he will be liable to a fine not exceeding Ten Pounds.

7 The contents of the schedule are strictly confidential.

E. M. T. FIRTH,

Registrar General.

Include in Part I of this schedule and in Part II on the back all persons who are alive at midnight on Sunday, 23rd April, 1961 (Census Night), and who spend the night in this household. If anyone who has not been enumerated elsewhere arrives the next day include him or her also. If any person usually living in this household is absent on Census Night, write his (her) name and particulars in Part III on the back of this schedule.					All married, widowed or divorced women. Write at (i) the total number of children born alive to her in marriage. See Note 5. Were any of these children born after 23rd April, 1960? Write "Yes" or "No" at (ii).	All married women. Write at (i) the date of her present marriage. Has she been married more than once? Write "Yes" or "No" at (ii). If "Yes" fill in column H.	Widowed or divorced women; OR women married more than once. Write at (i) the date of first or only marriage. Write at (ii) the date when that marriage ended. See Note 6.	Country of birth. If born in Great Britain write "England", "Scotland", or "Wales", whichever applies. See Note 7. If born in Ireland write "Northern Ireland" or "Irish Republic". If born elsewhere give the country of birth, e.g. Trinidad, Poland, or write "At Sea".	For persons NOT born in Great Britain or Northern Ireland. See Note 8. (a) If a citizen of the Commonwealth state at (i) citizenship, e.g. United Kingdom and Colonies, Indian, Canadian. (b) If a citizen of the U.K. and Colonies state at (ii) whether citizen by birth, descent, naturalisation, registration, marriage, etc. (c) For other persons state at (i) nationality e.g. Italian, Polish, Yugoslav.	For all persons Was this person's usual address a year ago (i.e. on 23rd April, 1960) the same as that indicated in column C? Write "Yes" or "No" at (i). If "Yes" state at (ii) how many years ago he (she) moved to that address. (If he (she) has lived there since birth write "birth"). See Note 11. If "No" state at (iii) the full usual address on 23rd April, 1960. See Note 2.	For all persons aged 15 and over not now receiving full-time education at school, college, university, etc., write the age at which such education ended. See Note 12.								
PART I Write in this column the names and surnames of all the persons to be included before you go on to the other columns. See Note 1. Babies should be included. If they have not been given a name, write "Baby" and the surname.	Relationship to the head of the household, e.g. Head, Wife, Son, Visitor, Visitor's Wife, Boarder, Employee.	If this dwelling is the person's usual address write "Here"; if not write the more usual address in full. See Note 2.	Sex "M" or "F" and Age in years at last birthday and completed months since then. See Note 3.	Persons 16 years or over. Write "Single", "Married", "Widowed", or "Divorced". See Note 4.	A	B	C	D	E	F	G	H	J	K	N	O			
			Sex: Years Months		(i)	(i)	(i)			(i)	(i)	(i)		(i)	(i)	(i)			
			Sex: Years Months		(ii)	(ii)	(ii)			(ii)	(ii)	(ii)		(ii)	(ii)	(ii)			
			Sex: Years Months		(i)	(i)	(i)			(i)	(i)	(i)		(i)	(i)	(i)			
			Sex: Years Months		(ii)	(ii)	(ii)			(ii)	(ii)	(ii)		(ii)	(ii)	(ii)			
			Sex: Years Months		(i)	(i)	(i)			(i)	(i)	(i)		(i)	(i)	(i)			
			Sex: Years Months		(ii)	(ii)	(ii)			(ii)	(ii)	(ii)		(ii)	(ii)	(ii)			
			Sex: Years Months		(i)	(i)	(i)			(i)	(i)	(i)		(i)	(i)	(i)			
			Sex: Years Months		(ii)	(ii)	(ii)			(ii)	(ii)	(ii)		(ii)	(ii)	(ii)			
			Sex: Years Months		(i)	(i)	(i)			(i)	(i)	(i)		(i)	(i)	(i)			
			Sex: Years Months		(ii)	(ii)	(ii)			(ii)	(ii)	(ii)		(ii)	(ii)	(ii)			
L State how this household occupies its accommodation (house, flat, rooms, etc.) by writing "Yes" at (a), (b), (c), (d) or (e) or by giving details at (f). See Note 9. (a) As owner-occupiers (including purchase by mortgage) (b) By renting it with a farm, shop or other business premises (c) By virtue of employment (d) By renting it from the Council or New Town Corporation (e) By renting it from another landlord— furnished or unfurnished (f) In some other way—please give details:					M Has this household the use of the following in the building? Write "Sole use" if used only by this household, or "Shared" if shared with another household, or "None". See Note 10. (a) Cold water tap (b) Hot water tap (c) Fixed bath (d) Watercloset (In the building or attached to it) I declare that this schedule including Parts II and III overleaf is correctly filled up to the best of my knowledge and belief. (Signature).....					PLEASE TURN OVER FOR PARTS II AND III Declaration to be made by the head of the household or other person making the return. I declare that this schedule including Parts II and III overleaf is correctly filled up to the best of my knowledge and belief. (Signature).....					Information to be given to the enumerator. Whether sharing stove and sink in shared dwellings Number of rooms Number of persons Males Females Schedule No.				

<p>PART II FOR PERSONS AGED 15 AND OVER</p>		<p>Fill in ONE of the sections R, S, or T for every person aged 15 and over.</p>		<p>If in the week ending 22nd April, 1961 the person was— in employment at any time (including any part-time or casual employment), whether or not actually at work, fill in Section R, but if the person became unemployed or retired during the week fill in Section S; —not in employment but intending to get work, or wholly retired, fill in Section S; —none of these, fill in Section T.</p>		<p>See Note 14.</p>	
<p>Please repeat here the names of all persons aged 15 years or over in the same order as you have written them overleaf.</p>	<p>Persons with qualifications in science and technology.</p> <p>See Note 13.</p> <p>State at (i) the academic and/or professional qualifications held.</p> <p>State at (ii) the main branch of science or technology in which the qualifications are held.</p>	<p>R</p> <p>For persons who in the week ending 22nd April, 1961, were in employment at any time (including any part-time or casual employment), whether or not actually at work, fill in this section in respect of that employment. If the person became unemployed or retired during the week, do not fill in this section, but fill in Section S. See Note 16.</p>	<p>S</p> <p>For persons who, at the end of the week ending 22nd April, 1961, were not in employment but intending to get work or wholly retired, fill in this section in respect of the last full-time employment. See Note 18.</p>	<p>T</p> <p>For other persons.</p>			
		<p>State the name and business of the employer but if self-employed write either "self-employed employs others" or "self-employed without employees", and also the nature of the business: if a trading name is used give that name as well.</p> <p>See Notes 16, 19, 20 and 23.</p>			<p>For the employment given in column (Ra) give at (i) the precise occupation showing where appropriate the material worked or dealt in, and for workers at mines whether employed mainly above or below ground. See Note 21.</p> <p>If applicable write at (ii) "Apprentice", "Learner" (only if in skilled craft), "Articled Pupil", "Student Apprentice", "Graduate Apprentice", or "Management Trainee".</p> <p>See Note 22.</p>	<p>State at (i) whether this employment was full-time or part-time. See Notes 15 and 17.</p> <p>If part-time state at (ii) the number of hours, excluding meal breaks, worked in this employment during the week ending 22nd April, 1961. See Note 15.</p>	<p>MALES ONLY</p> <p>If you have written "part-time" in column (Rd) give details of the last full-time employment, showing at (i) the business of the employer or details of self-employment and at (ii) the occupation.</p>

[illegible]

PART III	PERSONS ABSENT FROM THIS HOUSEHOLD (If no one is absent write "NONE" in column A below).	FILL IN ONE OF THE SECTIONS BELOW FOR EACH PERSON ABSENT AND AGED 15 YEARS AND OVER—See Note 14.
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(If no one is absent write "NONE" in column A below).

FILL IN **ONE** OF THE SECTIONS BELOW FOR EACH PERSON ABSENT AND AGED 15 YEARS AND OVER—See Note 14.

A		B	D		E	U	R	S	T		
Write here the names and surnames of all persons usually living in this household who are absent on Census Night, except those arriving next day who have been included in Part I. See Note 25.		Relationship to the head of the household. e.g. "Head", "Wife", "Son", "Boarder", "Boarder's wife", "Employee".	Sex "M" or "F" and Age in years at last birthday and completed months since then. See Note 3.		Persons 16 years or over. Write "Single", "Married", "Widowed", or "Divorced". See Note 4.	Place of abode on Census Night; if abroad give the name of the country.	For persons who in the week ending 22nd April, 1961, were in employment, whether or not actually at work, fill in this section in respect of that employment. State the name and business of the employer etc. (See the heading to column (Ra) above). For the employment given in the foregoing column (Ra) state the precise occupation etc. (See the heading to column (Rb) above).	For persons who at the end of the week ending 22nd April, 1961, were not in employment but intending to get work or wholly retired, fill in this section in respect of the last full-time employment. Write "Wholly retired" or "Out of Work". State the name and business of the last full-time employer etc. (See the heading to column (Sb) above). For the employment given in the foregoing column (Sb) give the precise occupation etc. (See the heading to column (Sc) above).	For other persons. Write "Housewife", "at school", "Student", etc. as applicable.		
A		B	D	E	U	Ra	Rb	Sa	Sb	Sc	T
			Sex: Years Months				(I) _____ (II) _____				
			Sex: Years Months				(I) _____ (II) _____				
			Sex: Years Months				(I) _____ (II) _____				

STRICTLY

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CENSUS, SCOTLAND, 1961

S.10

SCHEDULE

Prescribed by Regulations under the Census Act, 1920, as the form to be used for approximately one tenth of the population in Scotland, for the purpose of returns in respect of (a) Private Households, and (b) Other persons in respect of whom no other form of schedule is prescribed.

For Enumerator's Use

No. of Census Dist.	Name of Census District	No. of Enumeration Dist.

Name and postal address of householder or other person responsible for making the return

NOTICE

1. The Head, or person acting as Head, of a private Household is required by law to make a return in this form in respect of all persons (members of the household, including visitors, employees and boarders) who are present at midnight on the night of Sunday, 23rd April, 1961, in the dwelling, and all persons who arrive at the dwelling and join the household on Monday, 24th April, 1961, before the collection of the schedule, and who have not been enumerated elsewhere, and all other persons normally living in this dwelling.

Note. Any one or more persons separately occupying a house or part of a house, flat, apartment, etc., will be regarded as a separate household for Census purposes. Persons who usually have at least one meal a day provided by the household while in residence will be regarded as part of the household.

2. Every person is required by law to give to the person responsible for making the return such information as may be necessary to enable the return to be made. No use may, however, be made of such information by the person to whom it is given except for the purpose of making the return.

3. A person who has applied in the prescribed manner to make a separate confidential return will not be liable to give information to the Head; and in such case the person responsible for making the return will only be liable to include in his return in respect of that person the particulars required in Columns A and B within.

4. The schedule will be called for on **MONDAY, 24th April, by the appointed enumerator**; in order that he may not be delayed it must be ready with the answers written in the proper columns early on the morning of that day. If the answers appear to be incomplete or inaccurate, the enumerator must ask any questions necessary to complete or correct the schedule.

5. The person responsible for making the return may, if unable to deliver the schedule to the enumerator personally, arrange for some other person to do so on his behalf. If desired, the schedule may be handed to the enumerator under cover.

6. If any person whose duty it is to make a return or to give information refuses to do so, or wilfully gives false information, or uses otherwise than for the purpose of making the return any information given him for that purpose, he will be liable to a fine not exceeding **Ten Pounds**.

7. The contents of the schedule are strictly confidential.

ALEX. B. TAYLOR,
Registrar General.

Include in Part I of this schedule and in Part II on the back all persons who are alive at midnight on the night of Sunday, 23rd April, 1961 (Census Night), and who spend the night in this household. If anyone who has not been enumerated elsewhere arrives the next day include him or her also.

If any person usually living in this household is absent on Census Night, write his (her) name and particulars in Part III on the back of this schedule.

PART I

Write in this column the names and surnames of all the persons to be included before you go on to the other columns.

See Note 1.

Babies should be included. If they have not been given a name, write "Baby" and the surname.

Relationship to the head of the household, e.g. "Head", "Wife", "Son", "Visitor", "Visitor's Wife", "Boarder", "Employee".

If this dwelling is the person's usual address write "Here"; if not write the more usual address in full.

See Note 2.

Sex "M" or "F" and Age in years at last birthday and completed months since then.

See Note 3.

Persons 16 years or over.

Write "Single", "Married", "Widowed", or "Divorced".

See Note 4.

All married, widowed or divorced women.

Write at (i) the total number of children born alive to her in marriage.

See Note 5.

Were any of these children born after 23rd April, 1961? Write "Yes" or "No" at (ii).

All married women.

Write at (i) the date of her present marriage.

Has she been married more than once? Write "Yes" or "No" at (ii). If "Yes" fill in column H.

Widowed or divorced women; OR women married more than once.

Write at (i) the date of first or only marriage.

Write at (ii) the date when that marriage ended.

See Note 6.

Birthplace.

If born in Edinburgh, Glasgow, Dundee or Aberdeen City write name of City. If born elsewhere in Scotland write county of birth, e.g. Aberdeenshire.

If born outside Scotland write country of birth, e.g. England, Wales, Northern Ireland, Irish Republic, Canada, Poland or if born at sea write "At Sea".

See Note 7.

Nationality.

For persons born OUTSIDE Great Britain and Northern Ireland.

(a) If a citizen of the Commonwealth state at (i) citizenship, e.g. United Kingdom and Colonies, Indian, Canadian.

(b) If a citizen of the U.K. and Colonies state at (ii) whether citizen by birth, descent, naturalisation, registration, marriage, etc.

(c) For other persons state at (iii) nationality, e.g. Italian, Polish, Yugoslav.

See Note 8.

Gaelic.

Write "G" opposite the name of each person, 3 years of age and upwards, who speaks Gaelic * only. Write "G & E" opposite the name of each person who speaks both Gaelic and English.

* Gaelic means Scottish Gaelic.

For all persons.

Was the person's usual address a year ago (i.e. on 23rd April, 1960) the same as that indicated in column C? Write "Yes" or "No" at (i).

If "Yes" state at (ii) how many years ago he (she) moved to that address. (If he (she) has lived there since birth write "birth"). See Note 11.

If "No" state at (iii) the full usual address on 23rd April, 1960. See Note 2.

For all persons aged 15 and over now receiving full-time education at school, college, university, etc., write the age at which such education ended.

See Note 12.

A	B	C	D	E	F	G	H	J	K	X	N	O
			Sex: Years Months		(i) (ii)	(i) (ii)	(i) (ii)		(i) (ii) (iii)		(i) (ii) (iii)	
			Sex: Years Months		(i) (ii)	(i) (ii)	(i) (ii)		(i) (ii) (iii)		(i) (ii) (iii)	
			Sex: Years Months		(i) (ii)	(i) (ii)	(i) (ii)		(i) (ii) (iii)		(i) (ii) (iii)	
			Sex: Years Months		(i) (ii)	(i) (ii)	(i) (ii)		(i) (ii) (iii)		(i) (ii) (iii)	
			Sex: Years Months		(i) (ii)	(i) (ii)	(i) (ii)		(i) (ii) (iii)		(i) (ii) (iii)	
			Sex: Years Months		(i) (ii)	(i) (ii)	(i) (ii)		(i) (ii) (iii)		(i) (ii) (iii)	

L

State how this household occupies its accommodation (house, flat, rooms, etc.) by writing "Yes" at (a), (b), (c), (d) or (e) or by giving details at (f). See Note 9.

- (a) as owner-occupiers (including purchase by mortgage)
- (b) by renting it with a farm, shop or other business premises
- (c) by virtue of employment
- (d) by renting it from the Council, New Town Corporation, S.S.H.A., First or Second Scottish National Housing Company
- (e) by renting it from any other landlord—furnished or unfurnished
- (f) In some other way—please give details:

M

Has this household the use of the following in the building?

Write "Sole use" if used only by this household, or

"Shared" if shared with any other household, or

"None" See Note 10.

- (a) Cold water tap
- (b) Hot water tap
- (c) Fixed bath
- (d) Watercloset (In the building or attached to it)

PLEASE TURN OVER FOR PARTS II AND III

Declaration to be made by the head of the household or other person making the return.

I declare that this schedule including Parts II and III overleaf is correctly filled up to the best of my knowledge and belief.

(Signature)

Information to be given to enumerator.

Whether sharing stove and sink in shared dwellings

Number of rooms

Number of persons

Males

Females

Schedule No.

<p>Write in this column the names and surnames of every officer and other rank or rating who is alive at midnight on Sunday, 23rd April, 1961, and who spends the night on board this ship or in these premises. If anyone who has not been enumerated elsewhere arrives the next day include him or her also.</p>	<p>Sex "M" or "F" and Age in years at last birthday and completed months since then. See Note 1</p>	<p>Persons 16 years or over. Write "Single", "Married", "Widowed", or "Divorced", See Note 2</p>	<p>Country of birth If born in Great Britain write "England", "Scotland" or "Wales", whichever applies. See Note 3 If born in Ireland write "Northern Ireland" or "Irish Republic". If born elsewhere give the country of birth, e.g. Trinidad, Poland, or write "At Sea". For returns made in Scotland. If born in Scotland write County of birth.</p>	<p>For persons NOT born in Great Britain or Northern Ireland. See Note 4 (a) If a citizen of the Commonwealth state citizenship, e.g., United Kingdom and Colonies, Indian, Canadian. (b) If a citizen of the U.K. and Colonies state whether citizen by birth, descent, naturalisation, registration, marriage, etc. (c) For other persons state nationality, e.g. Italian, Polish, Yugoslav.</p>	<p>Information required only in returns made in Wales (including Monmouthshire) and Scotland. For Returns made in Wales (including Monmouthshire), If able to speak both Welsh and English write "Both", if Welsh only write "Welsh", otherwise insert "____". For Returns made in Scotland. If able to speak both Gaelic and English write "Both", if Gaelic only write "Gaelic", otherwise insert "____".</p>	<p>For all persons aged 15 and over not now receiving full-time education at school, college, university, etc., write the age at which such education ended. See Note 5.</p>	<p>Persons with qualifications in science and technology. See Note 6 State the academic and/or professional qualifications held, and the main branch of science or technology in which the qualifications are held.</p>	<p>Rank or Rating.</p>	<p>Service and Branch or Arm of Service.</p>
A	D	E	J	K	W	O	Q	R	S
	Sex Years Months								
1.									
2.									
3.									
4.									
5.									
6.									
7.									
8.									
9.									
10.									
11.									
12.									
13.									
14.									
15.									
16.									
17.									
18.									
19.									
20.									

To be completed on the first or only schedule by the Commanding Officer or other person responsible for making the return.

Total of Persons Enumerated			I declare that this schedule and the other to this ship or establishment is/are correctly filled up to the best of my knowledge and belief. Signature..... Rank..... * Insert here the number of additional schedules (you need sign only the first of a series of schedules); if only one schedule is used delete the words in italics.
Males	Females	Persons	

To be completed
by Enumerator
or Census Officer

Census District No.	
Enumeration District No.	
Schedule No.	

NOTES

1. Age (Column D)

- (a) If the age is not known exactly, give it as accurately as possible.
- (b) Even where the birthday is only a few days after Census day, the required age is the number of years at the last birthday and 11 months.

Marriage, etc. (Column E)

If a person is legally separated, not divorced, write " Married ".

3. Country of birth (Column J)

For the purposes of the Census, persons born in Monmouthshire should write " Wales ".

4. Citizenship or nationality (Column K)

- (a) For citizens of the Irish Republic write " Irish ".
- (b) For British protected persons give the protectorate or trust territory, e.g., Uganda, Tanganyika.

5. End of full-time education (Column O)

For persons not now receiving full-time education, but intending to resume it later, state the age at which education was discontinued.

6. Scientific qualifications (Column Q)

- (a) The information required is in respect of all persons, irrespective of present occupation, who hold one or more of the qualifications listed below in a branch of science or technology excluding medicine, dentistry, pharmacy, optics, veterinary science, architecture, economics, geography and the social sciences.
- (b) For all persons holding one or more of the following qualifications in a branch of science or technology, give particulars for the type of qualification as indicated below—

Qualifications	Examples
University degree or University Diploma of equivalent standard. (It is not necessary to list qualifications higher than a First degree or diploma.)	B.Sc. or B.A. or University Diploma
Associateship or Diploma of University Degree standard awarded by an educational institution other than a university.	Dip. Tech. (N.C.T.A.) or A. of Camborne School of Mines, or A. of Manchester College of Science and Technology, or A. of Heriot-Watt College.
Graduate or Corporate membership of a professional institution.	Grad. M. of Institution of Electrical Engineers, or Corp. M. of Institution of Civil Engineers.
(c) One of the following branches of science or technology should also be entered in column Q.	
Agriculture (including dairying, estate management, forestry, and horticulture.)	
Biology (all branches)	Chemical Engineering
Chemistry (other than pharmacy) including Biochemistry	Civil and Structural Engineering
Geology	Electrical Engineering
Mathematics	Mechanical Engineering
Physics	Mining Engineering
General Science	Metallurgy
Any other science, engineering or technology (please specify) except those excluded by definition in paragraph (a) above.	



N.M.A. (HOME FORCES)

CENSUS 1961

SCHEDULE

Prescribed by Regulations under the Census Act, 1920, as the form to be used for the purpose of returns in respect of persons belonging to the Naval, Military, or Air Forces of the Crown (including the Women's and Nursing Services), present at midnight on the night of Sunday, 23rd April, 1961, in any Vessel, or in any Barracks, Station, or other premises under Naval, Military, or Air Force discipline and all such persons who join the same on Monday, 24th April, 1961, and who have not been enumerated elsewhere.

THIS FORM IS FOR USE ONLY IN RESPECT OF SHIPS OR PREMISES IN ENGLAND AND WALES OR ADJACENT WATERS AND FOR SHIPS IN SCOTTISH WATERS

THE RETURN IS TO BE MADE IN ACCORDANCE WITH THE APPROPRIATE ADMIRALTY FLEET ORDER, ARMY COUNCIL INSTRUCTION, OR AIR MINISTRY ORDER

NOTICE

- 1. Under the Order in Council and Regulations made under the Census Act, 1920, returns are required to be made in this Form with respect to persons belonging to the Naval, Military, or Air Forces of the Crown (including the Women's and Nursing Services), present at midnight on the night of Sunday, 23rd April, 1961, in any Vessel, Barracks, Station, or other premises under Naval, Military, or Air Force discipline ; and with respect also to any other such persons who, not having been enumerated elsewhere for the purpose of the Census arrive on board any vessel or at any Barracks, Station, etc., after midnight ending the Census Day but before the return relating to the Vessel or premises is required to be delivered up.
- 2. Every such return is required by law to be made by " the Officer or other person appointed for the purpose in pursuance of arrangements made by the Admiralty, Army Council, or Air Council " (Census Order, 1960, First Schedule, Paragraph 4). The arrangements appointing persons to make the returns will be notified by Admiralty Fleet Order, Army Council Instruction, or Air Ministry Order, as the case may be.
- 3. The person responsible for making the return must enter in the spaces provided the required particulars as to the Ship, Depot, Barracks, Quarters, Hospital, etc., to which the return relates. He must enter, or cause to be entered, in the return, the particulars required therein with respect to all serving officers, and other ranks or ratings who fall to be included.
- 4. Every person concerning whom particulars are required to be included in the return must give to the person responsible for making the return such information as may be necessary to enable the return to be made. No use may, however, be made of such information by the person to whom it is given except for the purpose of making the return.
- 5. Attention is directed to the following provisions of Section 8 of the Census Act, 1920
 - 1) If any person:
 - (a) refuses or neglects to comply with or acts in contravention of any of the provisions of this Act or any Order in Council or regulations made under this Act; or
 - (b) being a person required under this Act to make a statutory declaration with respect to the performance of his duties, makes a false declaration; or
 - (c) being a person required by any Order in Council or regulations made under this Act to make, sign, or deliver any document, makes, signs, or delivers, or causes to be made, signed, or delivered a false document; or
 - (d) being a person required in pursuance of any such Order in Council or regulations to answer any question, refuses to answer or gives a false answer to that question;he shall for each offence be liable on summary conviction to a fine not exceeding ten pounds.
 - (2) If any person:
 - (a) being a person employed in taking a census, without lawful authority publishes or communicates to any person otherwise than in the ordinary course of such employment any information acquired by him in the course of his employment; or
 - (b) having possession of any information which to his knowledge has been disclosed in contravention of this Act, publishes or communicates that information to any other person;he shall be guilty of a misdemeanour, and shall on conviction be liable to imprisonment with or without hard labour for a term not exceeding two years or to a fine, or to both such imprisonment and fine.

FOR INSTRUCTIONS AS TO COMPLETION SEE WITHIN

INSTRUCTIONS

- 1. This form of Schedule should not be used in the case of premises which are outside England and Wales or of ships or premises which are outside Great Britain or the adjacent waters.
- 2. Make all entries in this Schedule in ink and write as clearly as possible. The notes will help you to give the particulars asked for; please read them before you fill in the answers.
- 3. When all the required particulars have been entered the completed return should be dealt with as follows :—
 - (a) If the form of return was received from an Enumerator it will be collected by him on the 24th April.
 - (b) If the form of return was received from a Census Officer it will be collected by that Census Officer or his representative.
 - (c) If the return relates to a Ship in Scottish waters on the night of the 23rd April, it should be forwarded forthwith to the Registrar General, New Register House, Edinburgh, 2.
 - (d) In all other cases the return should be forwarded forthwith to the Registrar General, Census Office, Segensworth Road, Titchfield, FAREHAM, Hants.

To be filled up by the Commanding Officer or other person responsible for making the return under arrangements made by the Admiralty, Army Council, or Air Council.

Service (state whether Navy, Marines. Army or Air Force)

Name of ship, depot, barracks, quarters, hospital, station or other premises

Position of ship* at midnight on 23rd April, 1961, or full postal address of land premises

* For ships in harbour state port or anchorage; for ships at sea state bearing and port for which bound.

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